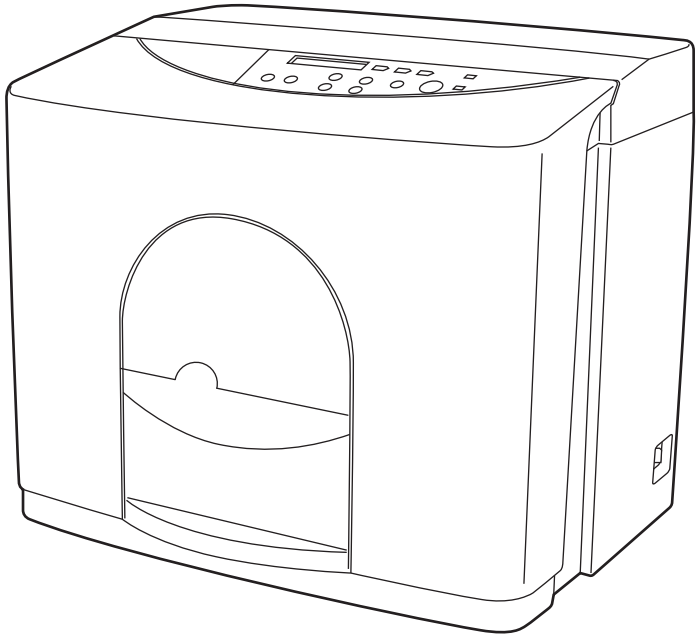
Life Science

FUJIFILM

User's Guide

Nucleic Acid Isolation System

QuickGene-810



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Introduction

Thank you for using the Nucleic Acid Isolation System QuickGene-810 (hereafter, called "QuickGene-810"). Easy operation of this device enables extraction of DNA and RNA.
This guid contains important information regarding the safe use of the QuickGene-810. Read this manual carefully before using.
Keep this manual after reading, for reference whenever necessary.

About Infectious Materials

When handling or disposing of infectious materials, follow the laboratory guideline or the law regarding infectious wastes to perform the incineration, fusion, sterilization, and/or disinfection.
When you use a third party to dispose it, outsource it to a licensed operator for industrial waste subject to special control, and give them the management table (manifest) for industrial waste subject to special control at the same time.

Universal biological hazard symbol

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Notations

This manual contains important information regarding the safe use of the QuickGene-810.
Read this information carefully before using the QuickGene-810, and start operation.
The meanings of safety precaution marks are as follows:

WARNING: **"WARNING" indicates a dangerous condition that may lead to death or serious injury.**

BIOHAZARD

"BIOHAZARD" indicates exposure to a biological agent or condition that may be infectious or harmful.

CAUTION: **"CAUTION" indicates the possibility of danger that may lead to minor or moderate personal injury.**
"CAUTION" may also indicate an accident of property damage.

Important:
"Important" shows the important notes for usage, as well as prohibited actions.

Note:
"Note" indicates the notes, procedures that should be obeyed, and supplementary information for use.

引言

感谢您购买 QuickGene-810 核酸分离系统 （以下称为 “QuickGene-810”）。此设备操作简便，可用于提取 DNA 和 RNA。
本手册中包含了有关 QuickGene-810 安全操作的重要信息，请在使用设备之前仔细阅读。
阅读完毕，请妥善保存本手册，以备必要时查阅。

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处理或弃置传染性材料时，请遵照有关传染性废弃物的试验室准则或相关法律进行焚化、熔解、杀菌和 / 或消毒。
如果是交由第三方来完成上述作业，则应将其外包给对特控工业垃圾有处理许可权的操作人员，并同时移交相应的管理表 （货单）。

通用生物危害性标记

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标志

本手册中包含了有关 QuickGene-810 安全操作的重要信息，请在使用 QuickGene-810 之前仔细阅读，然后再行操作。
安全注意事项的含义如下所述：

WARNING: “WARNING”指示发生时可导致死亡或严重伤害的危险情况。

BIOHAZARD “BIOHAZARD”指示暴露于生物制剂或是面对可能具有传染性或危害性的境况。

CAUTION: “CAUTION ”指示发生时可导致轻微或中度人身伤害的潜在危险。
“CAUTION ”还可指示意外财产损失。

Important ： “Important ”指示重要的使用说明及严禁的操作。

Note： “Note”指示注解信息、应遵守的操作规程及补充性的使用信息。

Introduction

Merci d'avoir choisi le Système d'isolation de l'acide nucléique QuickGene-810 (appelé ci-après "QuickGene-810"). Le fonctionnement simple de cet appareil permet l'extraction d'ADN et d'ARN.
Ce manuel contient des informations importantes concernant l'utilisation en toute sécurité du QuickGene-810. Lisez attentivement ce manuel avant toute utilisation.
Après lecture, conservez ce manuel pour pouvoir vous y référer ultérieurement si nécessaire.

A propos des produits infectieux

Lorsque vous manipulez ou mettez au rebut des produits infectieux, veillez à respecter les directives du laboratoire ou la loi les concernant pour en effectuer l'incinération, la fusion, la stérilisation et ou la désinfection.
Lorsque qu'un tiers est chargé de le faire, veillez à le confier à une entreprise habilitée à traiter des déchets industriels sujets à contrôle spécifique et fournissez-leur en même temps le tableau de gestion (le manifeste) des déchets industriels sujets à contrôle spécifique.

Universal biological hazard symbol

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Conventions

Ce manuel contient des informations importantes concernant l'utilisation en toute sécurité du QuickGene-810.
Lisez attentivement ces informations avant d'utiliser et de faire fonctionner le QuickGene-810.
Les significations des symboles de sécurité utilisés sont les suivantes :

WARNING: **"WARNING" signale des conditions de dangerosité qui, si elles n'étaient pas évitées, pourraient entraîner la mort ou des blessures graves.**

BIOHAZARD

"BIOHAZARD" indique l'exposition à un agent biologique ou à une situation qui peut être infectieuse ou nocive.

CAUTION: **"CAUTION" signale un danger possible qui, s'il n'était pas évité, pourrait entraîner des blessures corporelles mineures ou légères.**
"CAUTION" pourrait aussi indiquer un risque de dommage matériel.

Important :
"Important" : signale des remarques importantes concernant l'utilisation et les actions interdites.

Note:
"Note" : les remarques concernent les procédures à respecter, elles fournissent aussi des informations complémentaires.

Einführung

Wir danken Ihnen für den Kauf des Nukleinsäureisolierungssystems QuickGene-810 (im Folgenden als „QuickGene-810“ bezeichnet). Mit diesem Gerät kann durch einfache Bedienung eine DNA- und RNA-Extraktion durchgeführt werden.
Diese Anleitung enthält wichtige Informationen zur sicheren Verwendung von QuickGene-810. Lesen Sie die Anleitung vor der Verwendung sorgfältig durch.
Bewahren Sie diese Anleitung nach dem Lesen zum späteren Nachschlagen auf.

Umgang mit infektiösen Stoffen

Befolgen Sie bei der Handhabung oder Entsorgung von infektiösen Abfällen die Laborrichtlinien sowie die geltenden Gesetze und Vorschriften, und führen Sie die Verbrennung, Einschmelzung, Sterilisation und/oder Desinfektion entsprechend durch. Wenn Sie die Entsorgung durch Dritte ausführen lassen, beauftragen Sie zugelassene Entsorgungsfirmen für industriellen Sondermüll, und stellen Sie ihnen die relevanten Informationen zur Sondermüll-Abfallbehandlung zur Verfügung.

Universal biological hazard symbol

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Warnhinweise

Diese Anleitung enthält wichtige Informationen zur sicheren Verwendung des QuickGene-810.
Lesen Sie diese Informationen sorgfältig durch, bevor Sie das QuickGene-810 in Betrieb nehmen.
Die Bedeutung der verschiedenen Sicherheitshinweise wird im Folgenden erläutert:

WARNING: **„WARNING“ weist auf gefährliche Betriebsbedingungen hin, die zu ernsthaften Verletzungen oder Verletzungen mit Todesfolge führen können.**

BIOHAZARD

„BIOHAZARD“ kennzeichnet die Gefährdung durch biologische Agenzien oder Verhältnisse, die infektiös oder gesundheitsschädlich sein können.

CAUTION: **„CAUTION“ weist auf gefährliche Betriebsbedingungen hin, die zu leichten bis mittleren Verletzungen führen können.**
„CAUTION“ kann darüber hinaus das Risiko einer Sachbeschädigung kennzeichnen.

Important:
„Important“ kennzeichnet wichtige Bedienungshinweise sowie zu unterlassende Vorgehensweisen.

Note:
„Note“ kennzeichnet Hinweise, Vorgehensweisen, die befolgt werden sollten, und zusätzliche Informationen zur Bedienung.

Safety Information

This chapter describes safety precautions.
For your safety and that of others, follow the guidelines provided in the following pages concerning the use of the QuickGene-810.

About Instrument

⚠WARNING:

- **Ignoring the following notations may lead to fire or electric shock.**
  - Use a power cable that meets your country's standard, or contact your local distributor.
  - Connect to a grounded outlet to reach the power source.
  - Do not touch the plug with wet hands
  - Do not use the QuickGene-810 with voltage other than the voltage specified on the device. Do not overload the power outlet with too many devices.
  - Do not use the QuickGene-810 with a damaged power plug or a loose socket.
  - When dust is on the prongs of the power plug or the plug socket, clean with a dry cloth.
  - When you disconnect the plug from the outlet, be sure to hold the power plug itself. Do not pull the power cable.
  - For maintenance, disconnect the power plug from the outlet.
  - Do not touch the power plug when you hear the crash of thunder.
- **Do not pour any liquid on the QuickGene-810. Do not place any objects containing liquid on the QuickGene-810. Doing so may cause a device failure, fire, or electric shock.**
- **In the event the device overheats, starts to smoke or smells strange, immediately unplug the power cable.**

⚠CAUTION:

- **Never attempt to remodel the QuickGene-810 without the manufacturer's permission. Doing so may cause fire or electric shock.**
- **Do not place or drop objects on the QuickGene-810. Also refrain from bumping or knocking it, as doing so may cause a failure or malfunction of the QuickGene-810.**
- **If any liquid materials are left inside the device, wipe with a Kimwipe® or paper tissue.**
  Otherwise, the QuickGene-810 may be damaged.
- **The front cover will not stay on the way to the upper limit. If you release the front cover while opening it, it may cause injury or device damage.**
- **When replacing the Pump Tube, be sure to wear gloves.**
- **In the event of an ethanol spill, immediately unplug the power cable.**
- **Repairs to the QuickGene-810 should only be performed by such agencies as are specifically authorized by Fuji Photo Films Co., Ltd.**
- **Only original Fuji Photo Films Co., Ltd. replacement parts should be used.**
- **If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.**

About Installation Conditions

⚠WARNING:

- **Do not install the QuickGene-810 to a location where it can be splashed with water. Doing so may cause a device failure, fire, or electric shock.**
- **When relocating the QuickGene-810, be sure to disconnect the plug from the outlet first. Watch your step when you relocate the QuickGene-810. If the power cable is damaged, this may cause a device failure, fire, injury, or electric shock.**

⚠CAUTION:

- **Do not install the QuickGene-810 in an unstable place such as a slanted surface or a place subject to vibrations. Doing so may cause injury or device failure.**
- **Do not install the QuickGene-810 in direct sunlight or close to a heating device. Doing so may shorten the life of QuickGene-810, or cause a failure.**
- **Two or more people are necessary to relocate the QuickGene-810. Otherwise, you may hurt your back or hands because of the weight of QuickGene-810 (more than 20kg).**

For correct and safe use of QuickGene-810, install it in a location that meets the following conditions:

- A location where power can be provided. Use an AC100±10% to AC240V±10%, 50Hz or 60Hz outlet.
- A location where the temperature is 15 to 30°C, and humidity is 30 to 80%RH (non condensing).
- A location that will support the weight of QuickGene-810 (21kg), that is flat and stable, with no vibration.
- A location away from direct sunlight. Block the sunlight by curtains or blinds as necessary.
- A location which is well-ventilated and not dusty.
- A location where the temperature does not go up and down suddenly. Warming a cold room suddenly or moving the QuickGene-810 from a room with low temperature to a warm room may cause condensation inside the device (condensing), and may have a negative influence on the sample result.
- A location far from water taps, water heaters, humidifiers, air-conditioners and heaters. (Avoid areas of high temperature and high humidity, or low temperature and low humidity)
- A location far from objects which generate strong magnetic fields (motors, transformers, TV, audio speakers, magnets, etc.). Bringing the QuickGene-810 close to any type of magnetic field may cause a malfunction.

Product Use Limitations

- **Fuji Photo Film Co., Ltd. assumes no liability for results regardless of the intended use.**
- **It is the user's responsibility to validate the performance of QuickGene kits and QuickGene-810 for any case of use.**
- **The QuickGene-810 is a device for research and study only.**

When you use the QuickGene-810, read this manual thoroughly and follow the safety management regulations of your facilities (laboratory).

安全信息

本章介绍安全注意事项。
为了您和他人的安全，请遵守下文中有关使用 QuickGene-810 方面的指导原则。

关于设备

⚠WARNING:

- 忽视以下标志可导致火灾或电击。
  - 使用符合本国标准的电源线，或与当地经销商联系。
  - 连接到接地的电源插座上。
  - 不要在手湿的情况下触摸插头。
  - 电压未满足设备所指定的值时，不要使用 QuickGene-810。电源插座上不要插接过多设备，以免过载。
  - QuickGene-810 不得使用破损的插头或松垮的插座。
  - 如果电源插头或插座的分叉处有灰尘，请用干布将其清扫干净。
  - 从插座上拔下插头时，务必握住插头本身，切勿扯拽电源线。
  - 维护时，应从插座上拔下电源插头。
  - 听到雷声时不要触碰电源插头。
- 不要将任何液体泼溅到 QuickGene-810 上，不要在 QuickGene-810 上放置任何含有液体的物品，否则将可能导致设备故障，或者引起火灾或电击。
- 如果设备过热、开始冒烟或发出怪味，应立即拔下电源线。

⚠CAUTION:

- 未经制造商允许，切勿试图改装 QuickGene-810，否则将可能引起火灾或电击。
- 不要在 QuickGene-810 上放置物品或将物品丢到 QuickGene-810 上，同时禁止撞击或敲打 QuickGene-810，否则将可能导致其出现故障。
- 如果设备内遗留有液体，请用 Kimwipe® 拭镜纸或棉纸进行擦拭，否则将可能损坏 QuickGene-810。
- 前盖板上翻时并不会自动锁止。如果在打开前盖板的过程中松手，就可能导致人身伤害或设备损坏。
- 将泵管放回原位时，务必要戴上手套。
- 如果有乙醇溢出现象，应立即拔下电源线。
- 只有 Fuji Photo Films Co., Ltd. 的指定授权机构才能承担 QuickGene-810 的维修事宜。
- 只能使用 Fuji Photo Films Co., Ltd. 的原装更换件。
- 如果使用制造商未指定的设备，将可能使设备提供的保护无效。

关于安装条件

⚠WARNING:

- 不要将 QuickGene-810 安装在会溅水的地方，否则将可能导致设备故障，或者会引起火灾或电击。
- 挪动 QuickGene-810 时，务必先从插座上拔下插头。移动时要格外谨慎。如果损坏了电源线，将可能导致设备故障，或者会引起火灾、人身伤害或电击。

⚠CAUTION:

- 不要将 QuickGene-810 安装到不稳的地方 （例如斜坡或震动区域），否则将可能导致人身伤害或设备故障。
- 不要在阳光直射或靠近加热设备的地方安装 QuickGene-810，否则将可能缩短 QuickGene-810 的使用寿命或导致故障。
- 挪动 QuickGene-810 时至少须有两个人在场，否则将可能因 QuickGene-810 过重 （ 20 公斤以上）而伤及背部或双手。

为了安全、正确地使用 QuickGene-810，请将其安装在满足以下条件的地方：

- 能提供电源；使用 AC100 ±10% ～ AC240 ±10%V， 50Hz 或 60Hz 的插座。
- 温度介于 15°C 到 30°C 之间，相对湿度介于 30% 到 80% （非冷凝）之间。
- 足以支撑 QuickGene-810 的重量 （21 公斤），平稳，无震动。
- 不受阳光直射。必要时可用门帘或窗帘挡住阳光。
- 通风良好，没有太多灰尘。
- 温度不会骤然升降。突然将冷室加温或是将 QuickGene-810 从低温的房间移入温暖的房间，都可能导致设备内部发生凝缩 （冷凝），从而影响样品结果的准确性。
- 远离水龙头、热水器、加湿器、空调及加热器 （避开温度高、湿度大或温度低、湿度小的区域）。
- 远离能产生强磁场的物体 （发动机、变压器、电视、收音机、磁铁等）。将 QuickGene-810 贴近任何类型的磁场都可能导致故障。

产品使用限制

- 无论使用意图如何， Fuji Photo Film Co., Ltd. 都不对结果承担任何责任。
- 用户应负责验证 QuickGene-810 及 QuickGene 套件在任意使用条件下的性能。
- QuickGene-810 是一种仅用于科学研究的设备。

使用 QuickGene-810 时，请全文阅读本手册并遵照所在机构 （实验室）的安全管理规程进行操作。

Informations concernant la sécurité

Ce chapitre décrit les précautions de sécurité.
Pour votre sécurité et celle des autres, veuillez suivre les indications et recommandations fournies dans les pages suivantes et qui concernent l'utilisation du QuickGene-810.

A propos des instruments

⚠WARNING:

- **Si les recommandations suivantes ne sont pas prises en compte, un incendie ou une décharge électrique peuvent se produire.**
  - Utilisez un câble d'alimentation conforme aux réglementations de votre pays ou contactez votre revendeur local.
  - Connectez à une prise électrique mise à la terre
  - Ne touchez pas la fiche si vous avez les mains mouillées
  - N'utilisez pas le QuickGene-810 avec un voltage différent de celui qui est spécifié sur l'appareil. Ne branchez pas trop appareils sur la prise électrique.
  - N'utilisez pas QuickGene-810 si la fiche est endommagée ou si la prise n'est pas solidement fixée.
  - Si les broches de la prise ou de la fiche sont poussiéreuses, nettoyez-les avec un chiffon sec.
  - Lorsque vous retirez la fiche de la prise, faites-le en tenant fermement la prise. Ne tirez pas le câble.
  - Pour tout entretien, débranchez la fiche de la prise murale.
  - Ne touchez pas la fiche lorsque le tonnerre gronde.
- **Ne versez aucun liquide sur le QuickGene-810. Ne placez aucun objet contenant du liquide sur l'appareil. Vous risquez, en le faisant, de provoquer une panne, un incendie ou une décharge électrique.**
- **En cas de surchauffe de l'appareil, ou s'il dégage de la fumée ou une odeur bizarre, débranchez immédiatement le câble d'alimentation.**

⚠CAUTION:

- **N'essayez en aucun cas de remodeler ou modifier le QuickGene-810 sans l'autorisation du fabricant. Cela pourrait entraîner un incendie ou une décharge électrique.**
- **Ne placez – ou ne faites tomber – aucun objet sur le QuickGene-810. De même, évitez de lui faire subir des chocs ou des coups, cela pourrait entraîner des défaillances ou un mauvais fonctionnement de l'appareil.**
- **Si un quelconque liquide s'introduit dans l'appareil, épongez-le avec une serviette en papier, sinon le QuickGene-810 pourrait être endommagé.**
- **Le capot avant ne tient pas tant qu'il n'a pas atteint sa limite supérieure d'ouverture. Si vous lâchez le capot avant en l'ouvrant, il risque de blesser quelqu'un ou d'endommager l'appareil.**
- **Lorsque vous remplacez le tuyau de pompe, veillez à porter des gants.**
- **Au cas où de l'éthanol se renversait, débranchez immédiatement le câble d'alimentation.**
- **Des réparations du QuickGene-810 ne doivent être effectuées que par des agences spécifiquement autorisées par Fuji Photo Films Co., Ltd.**
- **Et seules doivent être utilisées, les pièces détachées originales provenant de Fuji Photo Films Co., Ltd.**
- **Si ce matériel est utilisé de manière non spécifiée par le fabricant, la protection fournie par le matériel peut s'en trouver diminuée.**

A propos des conditions d’installation

⚠WARNING:

- **N'installez le QuickGene-810 dans un emplacement où il pourrait être éclaboussé par de l'eau. Cela pourrait entraîner une défaillance de l’appareil, un incendie ou une décharge électrique.**
- **Si vous devez déplacer le QuickGene-810 vers un autre emplacement, veillez à débrancher l’appareil en premier. Faites attention en déplaçant le QuickGene-810, si vous marchez sur le câble d’alimentation et qu’il est endommagé, cela peut entraîner une défaillance de l’appareil, un incendie ou une décharge électrique.**

⚠CAUTION:

- **N’installez pas le QuickGene-810 sur un emplacement instable, comme par exemple, une surface inclinée ou sujette à vibrations. Cela pourrait entraîner des blessures ou un dysfonctionnement.**
- **Ne placez pas le QuickGene-810 sous l’exposition directe du soleil ou à proximité d'un appareil de chauffage. Cela pourrait raccourcir la durée de vie du QuickGene-810 ou provoquer un dysfonctionnement.**
- **Pour déplacer le QuickGene-810, deux personnes au moins sont nécessaires. Vous risquez, autrement, de vous faire mal au dos ou aux mains du fait du poids de l’appareil (plus de 20 kg).**

Pour une utilisation correcte et sûre du QuickGene-810, installez-le dans un emplacement qui répond aux conditions suivantes :

- Un emplacement à proximité d’une alimentation électrique. Utilisez une prise CA100 ± 10% à CA240V ± 10%, 50Hz ou 60Hz.
- Un emplacement où la température est située entre 15 à 30°C, et ou l’humidité relative est comprise entre 30 à 80%RH (sans condensation).
- Un emplacement qui peut soutenir le poids du QuickGene-810 (21 kg), qui est plane, stable et sans vibration.
- Un emplacement éloigné des rayons directs du soleil. Si nécessaire, bloquez le soleil avec des rideaux ou des stores.
- Un emplacement correctement aéré et sans poussière.
- Un emplacement où la température ne varie pas brutalement. Si vous réchauffez brusquement une pièce fraîche ou si vous déplacez le QuickGene-810 d’une pièce où la température est basse à une autre où il fait plus chaud, de la condensation risque de se produire à l’intérieur de l’appareil et peut avoir une influence adverse sur le résultat de l’échantillon.
- Un emplacement éloigné de robinets d’eau, de bouilloires, d’humidificateurs, d’appareils d’air conditionné et de chauffage. (Évitez les emplacements à température élevée et forte humidité ou à basse température et faible humidité).
- Un emplacement éloigné d’objets qui dégagent un champ magnétique fort (moteurs, transformateurs, TV, haut-parleurs, aimants etc.). Si le QuickGene-810 est à proximité d’un type quelconque de champ magnétique, il risque d’y avoir un dysfonctionnement.

Limitations d’utilisation du produit

- **Fuji Photo Film Co., Ltd. n’assume aucune responsabilité de résultats quel que soit l’usage voulu.**
- **Il est de la responsabilité de l’utilisateur de valider la performance des kits QuickGene et du QuickGene-810 dans tous les cas d’utilisation.**
- **Le QuickGene-810 est un appareil uniquement destiné à la recherche et l’étude.**

Lors de l’utilisation de QuickGene-810, lisez d’abord ce manuel entièrement et respectez les règlements de gestion de risque de votre lieu de travail (laboratoire).

Sicherheitsinformationen

In diesem Kapitel sind die Sicherheitsmaßregeln beschrieben.
Um Verletzungen zu vermeiden, befolgen Sie bitte die Bedienungsrichtlinien für QuickGene-810 auf den folgenden Seiten.

Informationen zum Gerät

⚠WARNING:

- **Bei Missachtung der folgenden Warnhinweise besteht Brand- und Stromschlaggefahr.**
  - Verwenden Sie ein Netzkabel, das den geltenden Bestimmungen Ihres Landes entspricht, oder wenden Sie sich an Ihren örtlichen Händler.
  - Schließen Sie das Netzkabel an eine geerdete Steckdose an.
  - Fassen Sie den Netzstecker nicht mit nassen Händen an.
  - Betreiben Sie das QuickGene-810 ausschließlich mit der am Gerät angegebenen Netzspannung. Überlasten Sie die Steckdose nicht durch Anschließen von zu vielen Geräten.
  - Verwenden Sie das QuickGene-810 nicht mit einem beschädigtem Netzstecker oder einer lockeren Steckdose.
  - Wenn die Kontakte des Netzsteckers oder die Steckdose staubig sind, wischen Sie sie mit einem trockenen Tuch ab.
  - Wenn Sie den Netzstecker aus der Steckdose ziehen, fassen Sie stets den Netzstecker direkt an. Ziehen Sie nicht am Netzkabel.
  - Ziehen Sie vor der Durchführung von Wartungsarbeiten den Netzstecker ab.
  - Fassen Sie den Netzstecker bei Gewitter nicht an.
- **Verschütten Sie keine Flüssigkeiten über dem QuickGene-810. Stellen Sie keine Flüssigkeitsbehälter auf dem QuickGene-810 ab. Dadurch könnte es zu einem Ausfall des Gerätes, zu einem Brand oder Stromschlag kommen.**
- **Wenn sich das Gerät überhitzt oder wenn Rauch oder ungewöhnliche Gerüche auftreten, ziehen Sie sofort das Netzkabel ab.**

⚠ **CAUTION:**

- **Versuchen Sie nicht, das QuickGene-810 ohne die Erlaubnis des Herstellers zu verändern. Dadurch könnte es zu einem Brand oder Stromschlag kommen.**
- **Legen Sie keine Gegenstände auf dem QuickGene-810 ab, und lassen Sie keine Gegenstände darauf fallen. Setzen Sie es außerdem keinen Stößen oder ähnlichen Erschütterungen aus, da es dadurch zu einem Ausfall oder zu einer Fehlfunktion des QuickGene-810 kommen könnte.**
- **Wenn im Gerät irgendwelche Flüssigkeiten zurückbleiben, wischen Sie es mit einem fusselfreien Papiertuch aus. Andernfalls kann es zu einer Beschädigung des QuickGene-810 kommen.**
- **Die vordere Abdeckung rastet nicht vor Erreichen des oberen Anschlags ein. Wenn Sie die vordere Abdeckung loslassen, während Sie sie öffnen, kann es zu Verletzungen oder zu einer Beschädigung des Geräts kommen.**
- **Tragen Sie beim Auswechseln des Pumpenrohrs stets Handschuhe.**
- **Falls Ethanol verschüttet werden sollte, ziehen Sie sofort das Netzkabel ab.**
- **Reparaturarbeiten am QuickGene-810 sollten nur von Firmen ausgeführt werden, die von Fuji Photo Films Co., Ltd. ausdrücklich dafür autorisiert sind.**
- **Dabei sollten nur Original-Ersatzteil von Fuji Photo Films Co., Ltd. verwendet werden.**
- **Wenn das Gerät anders als auf die vom Hersteller vorgesehene Weise verwendet wird, können die Sicherheitseigenschaften des Geräts beeinträchtigt werden.**

⚠WARNING:

- **Stellen Sie das QuickGene-810 nicht an einem Ort auf, an dem es Spritzwasser ausgesetzt ist. Dadurch könnte es zu einem Ausfall des Geräts, zu einem Brand oder Stromschlag kommen.**
- **Wenn Sie den Aufstellungsort des QuickGene-810 ändern, stellen Sie sicher, dass vorher der Netzstecker gezogen ist. Achten Sie bei einer Standortveränderung des QuickGene-810 darauf, wohin Sie treten. Wenn das Netzkabel beschädigt wird, kann es zu einem Ausfall des Geräts, zu einem Brand oder Stromschlag kommen.**

⚠CAUTION:

- **Stellen Sie das QuickGene-810 nicht auf einem unsicheren Ort auf, z. B. auf einer abschüssigen Oberfläche oder an einem Ort, der Vibrationen ausgesetzt ist. Dadurch kann es zu Verletzungen oder einem Ausfall des Geräts kommen.**
- **Stellen Sie das QuickGene-810 nicht an einem Ort auf, der direktem Sonnenlicht ausgesetzt ist oder in der Nähe eines Heizgerätes liegt. Dadurch könnte die Lebensdauer des QuickGene-810 verkürzt oder ein Ausfall verursacht werden.**
- **Eine Veränderung des Aufstellungsorts des QuickGene-810 muss von mindestens zwei Personen durchgeführt werden. Ansonsten kann es aufgrund des Gerätegewichts (über 20 kg) zu Verletzungen des Rückens oder der Hände kommen.**

Für eine problemlose und sichere Verwendung stellen Sie das QuickGene-810 an einem Ort auf, der die folgenden Bedingungen erfüllt:

- Stromversorgung: Verwenden Sie eine Steckdose mit einer Netzspannung von 100 ± 10% bis 240 V ± 10% AC, 50 Hz oder 60 Hz.
- Temperatur 15 bis 30 °C und relative Luftfeuchtigkeit zwischen 30 und 80 % (nicht kondensierend).
- Eine ebene, stabile Oberfläche, die das Gewicht des QuickGene-810 (21 kg) trägt und die keinen Vibrationen ausgesetzt ist.
- Kein direktes Sonnenlicht. Falls erforderlich, schützen Sie das Gerät durch Vorhänge oder Jalousien vor direkter Sonneneinstrahlung.
- Gut belüftete und staubfreie Umgebung.
- Keine abrupten Temperaturschwankungen. Wenn ein kalter Raum schnell aufgeheizt wird oder das QuickGene-810 aus einem kalten in einen warmen Raum transportiert wird, kann im Gerät Kondensation auftreten, die das Probenergebnis beeinträchtigen kann.
- Genügend Abstand von Wasserhähnen, Warmwasserbereitern, Luftbefeuchtern, Klimaanlagen und Heizgeräten. (Vermeiden Sie Bereiche mit hoher Temperatur und hoher Luftfeuchtigkeit oder niedriger Temperatur und niedriger Luftfeuchtigkeit.)
- Genügend Abstand von Gegenständen, die starke Magnetfelder erzeugen (Elektromotoren, Transformatoren, Fernsehgeräte, Lautsprecher, Magneten etc.). Wenn das QuickGene-810 in die Nähe irgendwelcher Magnetfelder gebracht wird, führt dies zu einer Fehlfunktion.

Einschränkungen der Produktverwendung

- **Fuji Photo Film Co., Ltd. übernimmt keine Haftung für die Ergebnisse, unabhängig vom Verwendungszweck.**
- **Es liegt in der Verantwortung des Anwenders, die Eignung der QuickGene-Kits und des QuickGene-810 für die jeweils vorgesehene Anwendung zu überprüfen.**
- **Das QuickGene-810 ist nur für den Einsatz in Forschung und Lehre vorgesehen.**

Wenn Sie das QuickGene-810 einsetzen, lesen Sie diese Anleitung sorgfältig durch, und befolgen Sie die Sicherheitsbestimmungen Ihrer Einrichtung (Labor).

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1 Installation

This chapter explains how to install the QuickGene-810.

2 Basic Functions

This chapter explains the basic functions of the QuickGene-810.

3 Operation

This chapter explains the extraction procedures.

4 Maintenance

This chapter describes how to maintain the QuickGene-810.

5 How to Set Parameters

This chapter explains how to set parameters.

6 Troubleshooting

This chapter describes the procedures that should be taken when you suspect device failures, and the messages shown on the LCD.

Appendix A

This appendix describes after-sales services and points to note for transfer.

1 Installation

This chapter explains how to install the QuickGene-810.

1.1 Installation and Use Conditions

This section explains the installation conditions and operating environment of the QuickGene-810.

■ Installation conditions

⚠WARNING:

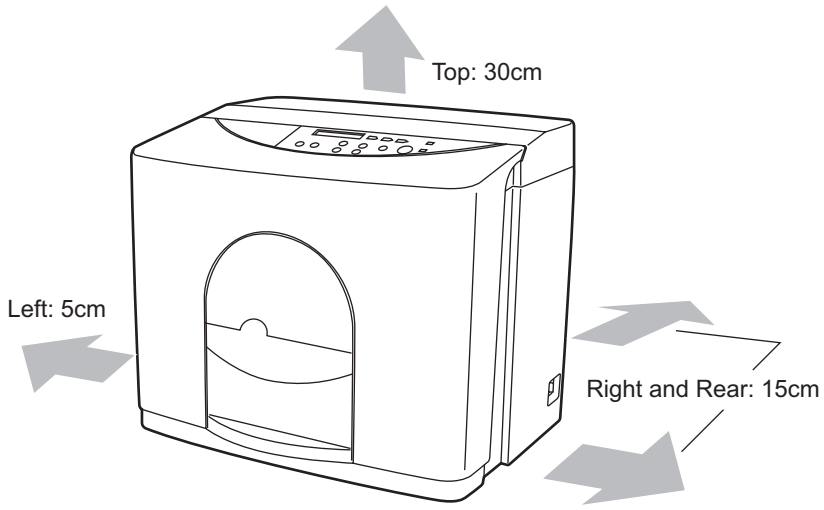
- **Do not install the QuickGene-810 to a location where it can be splashed with water. It may cause a device failure, fire, or electric shock.**
- **When relocating the QuickGene-810, disconnect the plug from the outlet first. If the power cable is damaged, this may cause a device failure, fire, injury, or electric shock.**

⚠CAUTION:

- **Do not install the QuickGene-810 in an unstable place such as a slanted surface or a place subject to vibrations. It may cause injury or device failure.**
- **Do not install the QuickGene-810 in direct sunlight or close to a heating device. It may shorten the life of QuickGene-810, or cause a trouble.**
- **Two or more people are necessary to carry the QuickGene-810. Otherwise, you may hurt your back or hands because of the weight of QuickGene-810 (more than 20kg).**

For correct and safe use of QuickGene-810, install it in a location that meets the following conditions:

- The space shown in the following figure must be allocated.



- A location where power can be provided. Use an AC100±10% to AC240V±10%, 50Hz or 60Hz outlet.
- A location where the temperature is 15 to 30°C, and humidity is 30 to 80%RH (non condensing).
- A location that will support the weight of QuickGene-810 (21kg), that is flat and stable, with no vibration.

- A location away from direct sunlight. Block the sunlight by curtains or blinds as necessary.
- A location which is well-ventilated and not dusty.
- A location where the temperature does not go up and down suddenly. Warming a cold room suddenly or moving the QuickGene-810 from a room with low temperature to a warm room may cause condensation inside the device (condensing), it may damage the QuickGene-810 system.
- A location far from water taps, water heaters, humidifiers, air-conditioners and heaters. (Avoid areas of high temperature and high humidity, or low temperature and low humidity.)
- A location far from objects which generate strong magnetic fields (motors, transformers, TV, audio speakers, magnets, etc.). Bringing the QuickGene-810 close to any type of magnetic field may cause a malfunction.

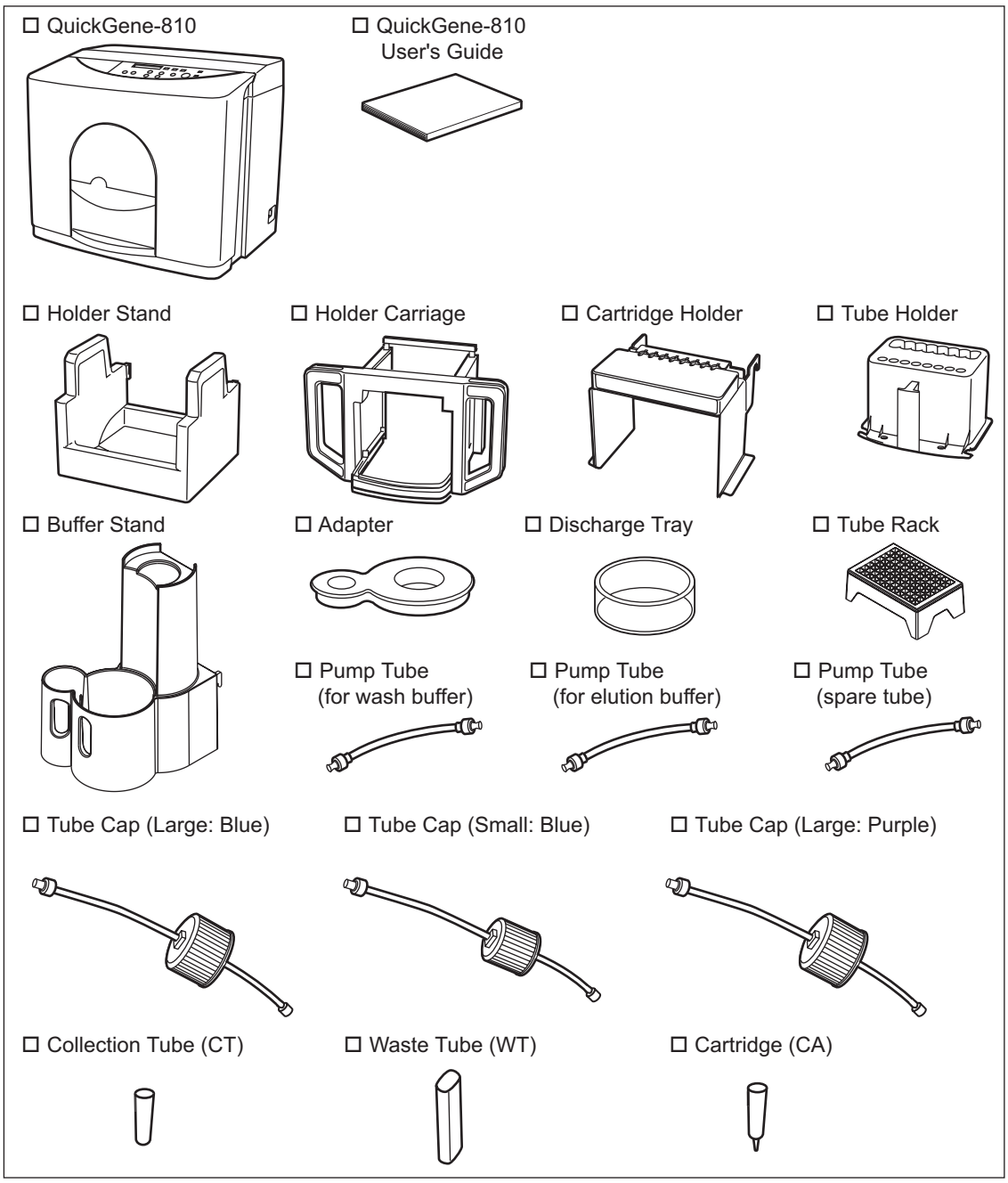
■ Use conditions

The following shows the operating environment of the QuickGene-810.

Items		Specifications
Temperature (°C)	During operation	15 – 30
	During downtime	0 – 55
Humidity (RH)	During operation	30 – 80
	During downtime	10 – 80
Max. wet bulb temperature (°C)	During operation	29 (non condensing)
	During downtime	29 (non condensing)
Temperature gradient (°C/Hr)		12 or less (non condensing)
Humidity gradient (RH/day)		30 or less (non condensing)
Altitude, operating (m)		2,000
Installation (Overvoltage) Category Definition		CAT II Local-level mains (wall sockets). Equipment at this level includes appliances, portable tools, and similar products. Equipment is usually cord-connected.
Pollution Degree Definition		Pollution Degree2 Normally only dry, nonconductive pollution occurs. Occasionally a temporary conductivity that is caused by condensation must be expected. This location is a typical office/home environment. Temporary condensation occurs only when the product is out of service.
Pollution Degree		Pollution Degree 2. Note: Rated for indoor use only.

1.2 Checking the QuickGene-810 and Accessories

Check that the following are included in the package.
Contact your local representative if you notice any missing part(s).

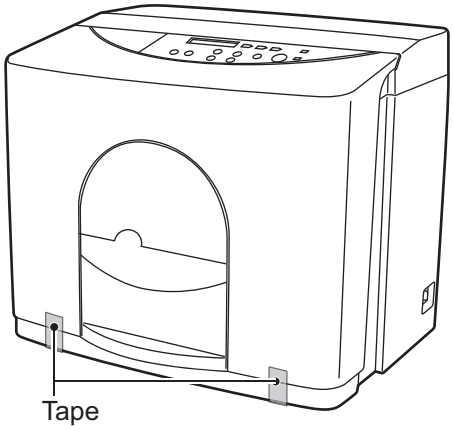


For the options, refer to "A.2 Options"(→ page 48).

1.3 Remove the Packaging Materials

After unpacking the QuickGene-810 from the box, do as follows:

（1）Remove the tape that holds the front cover.

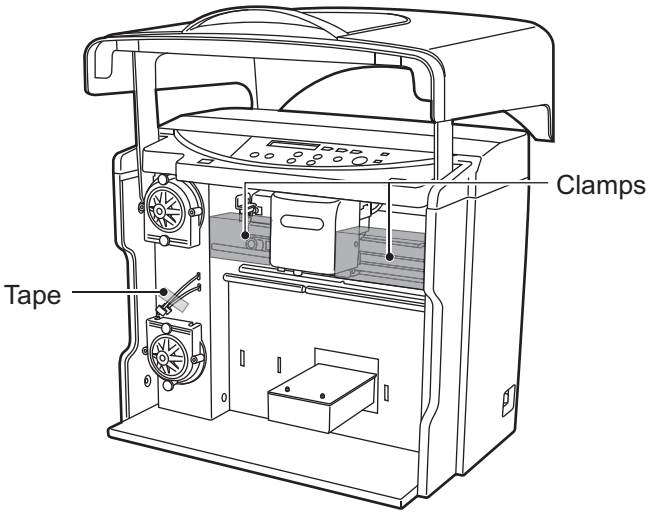


（2）Open the front cover, and remove the following items.

- Clamps for fixing the carrier both side of the Carrier
- Remove the tape that holds the tubes.

Important: Keep the shipping box and 2 clamps. They will be necessary for transporting QuickGene-810.

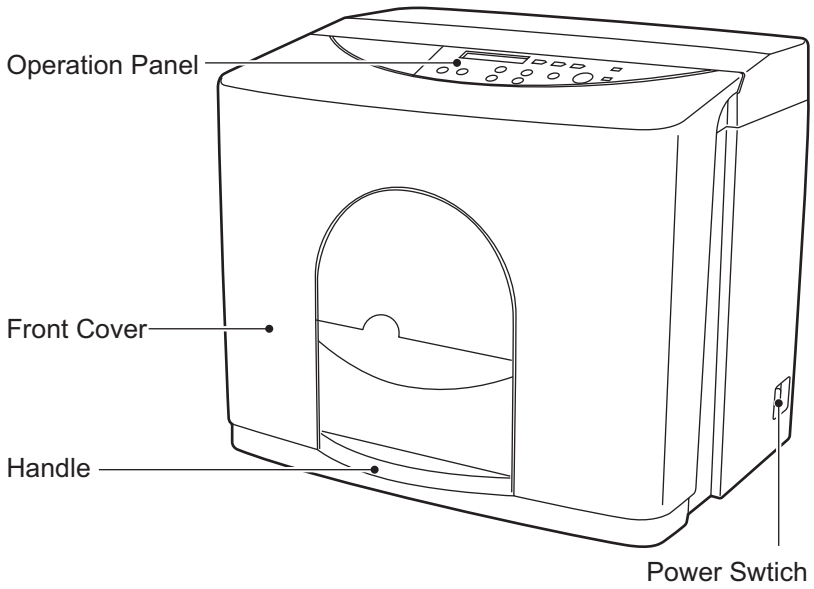
CAUTION: The front cover will not stay on the way to the upper limit. If you release the front cover while opening it, it will drop suddenly and may cause injury or device damage.



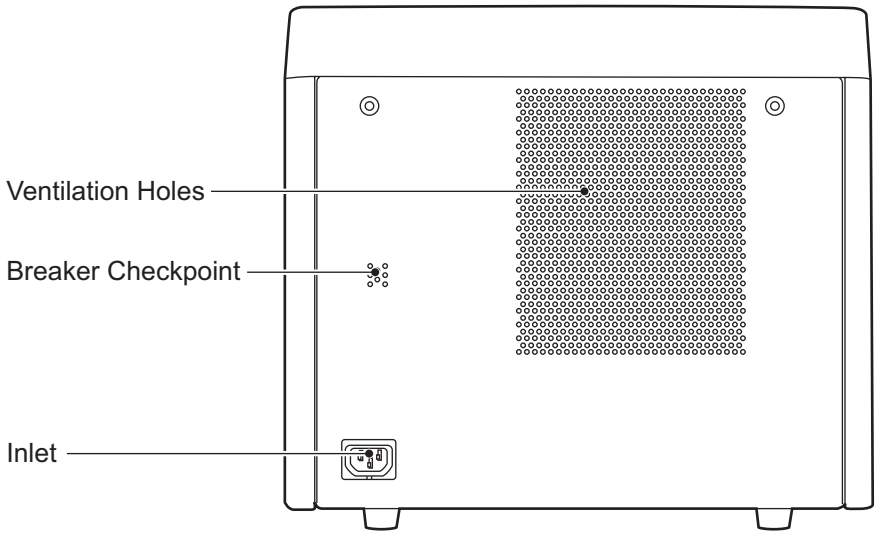
1.4 Overview

This section explains the name and function of each part in the QuickGene-810.

■ Front and side view

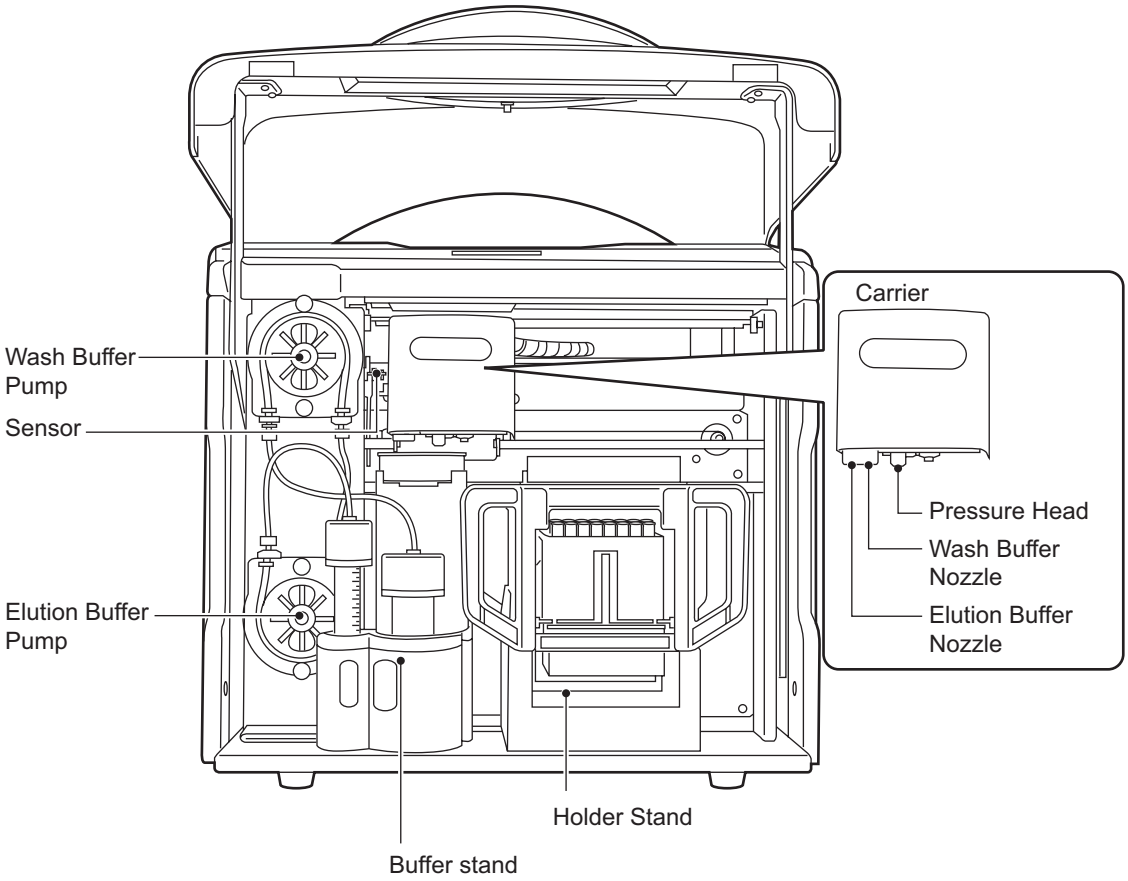


■ Rear view



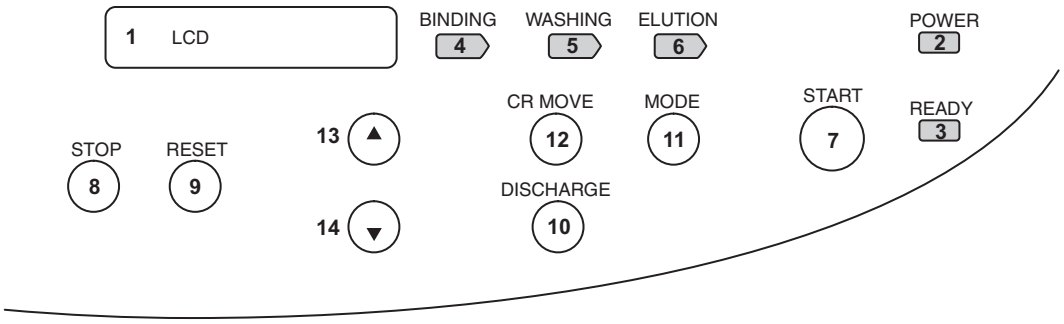
1

■ Internal view



Name	Function
Buffer Stand	Set the conical tubes to contain elution buffer and wash buffer, and the Discharge Tray.
Holder Stand	Set the Tube Holder and Cartridge Holder. Set collection tubes and waste tubes in the Tube Holder. Set cartridges in the Cartridge Holder.
Wash Buffer Pump	Sends the wash buffer in the conical tube to the Carrier.
Elution Buffer Pump	Sends the elution buffer in the conical tube to the Carrier.
Carrier	Moves automatically during extraction operation.
Pressure Head	Presses out the air and uses the pressure to flush out solutions.
Wash Buffer Nozzle	Provides the wash buffer into Cartridges.
Elution Buffer Nozzle	Provides the elution buffer into Cartridges.
Sensor	Checks that the carrier is placed in the correct position. Do not touch the sensors.

■ Operation Panel



No.	Name	Function
1	LCD	Displays messages. For the displayed messages, refer to "2.4 LCD Display Information"(→ page 17) and "6.3 Error Messages"(→ page 46).
Lamp (LED)		
2	POWER	The green light is on when the power is on. The light is off in the following cases. - When the power is off - When an abnormality is detected in the power unit
3	READY	The green light is on when the QuickGene-810 is ready for operation. The light is off during extraction process or setup.
4	BINDING	The green light is on when the [START] button is pressed. The green light blinks during binding process or when extraction process is completed. The orange light blinks when an error is detected. The light is off in other cases.
5	WASHING	The green light is on during binding process starting from when the [START] button is pressed. The green light blinks during washing process or when extraction process is completed. The orange light blinks when an error is detected. The light is off in other cases.
6	ELUTION	The green light is on during washing process starting from when the [START] button is pressed. The green light blinks during collection process or when the extraction process is completed. The orange light blinks when an error is detected. The light is off in other cases.
Button	**Note: The buttons may only be used when the cover is closed.**	
7	START	Starts a program. The operation cannot be started while the front cover is open, or if an error has occurred. In the setup mode, changed parameters are saved and quit setup mode.
8	STOP	Halts the program of QuickGene-810. In the setup mode, changed parameters are not saved and quit setup mode.
9	RESET	Can be used in the following cases to abort the program. - When pressing the [STOP] button during the extraction process - When the front cover is opened during extraction process and the process is paused In the setup mode, changed parameters are not saved and quit setup mode.

No.	Name	Function
10	DISCHARGE	Discharges the old wash buffer and elution buffer remaining in the tubes. Discharges the remaining air from the tubes, and fills the tubes with new wash buffer and elution buffer.
11	MODE	Switches the extraction modes of QuickGene-810. The button toggles the operation mode. DNA WHOLE BLOOD RNA CELL RNA CELL PLUS DNA TISSUE RNA TISSUE RNA TISSUE PLUS PLASMID Extraction mode names can be changed.
12	CR MOVE	Moves the carrier from side to side. Each time the switch is pressed, the carrier moves from side to side. Can be used while the front cover is closed.
13	▲	Can only be used at setup mode. Increments the setting value of the item displayed in the LCD at setup mode. Pressing ▼ and ▲ simultaneously starts the setup.
14	▼	Decrements the setting value of the item displayed in the LCD at setup mode. Can only be used at setup mode.

1.5 Setup Parts

This section explains how to install the parts included in the package.
Install the following parts:

- Power Cable
- Pump Tube
- Buffer Stand
- Tube Cap
- Holder Stand

An empty conical tube is needed to set a Tube Cap.
Prepare two conical tubes in order to set Tube Caps for elution buffer and wash buffer respectively.
The recommended conical tubes are as follows:

Size	Type	Item
Standard	Large conical tube (for wash buffer)	BD Falcon 50ml conical tube
	Small conical tube (for elution buffer)	BD Falcon 15ml conical tube
Large	Large conical tube (for wash buffer)	BD Falcon 175ml conical tube
	Small conical tube (for elution buffer)	BD Falcon 50ml conical tube

■ Setup the power cable

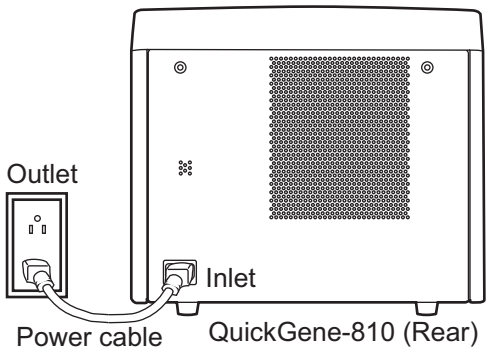
The following explains how to install the power cable.

⚠WARNING:

- **Ignoring the following notations may lead to fire or electric shock. Use a power cable that meets your country's standard, or contact your local distributor.**
- 忽视以下标志可导致火灾或电击。
  使用符合本国标准的电源线，或与当地经销商联系。
- **Si les recommandations suivantes ne sont pas prises en compte, un incendie ou une décharge électrique peuvent se produire. Utilisez un câble d'alimentation conforme aux réglementations de votre pays ou contactez votre revendeur local.**
- **Bei Missachtung der folgenden Warnhinweise besteht Brand- und Stromschlaggefahr. Verwenden Sie ein Netzkabel, das den geltenden Bestimmungen Ihres Landes entspricht, oder wenden Sie sich an Ihren örtlichen Händler.**

Important: Refer to "A.1 Usable Power Supply Cords"(→ page 47)", for details about the power cables that can be used in each country.

(1) Connect one of the plugs of the power cable to the inlet of QuickGene-810.



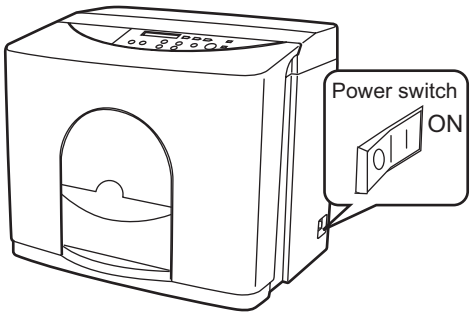
(2) Connect the other plug of power cable to the outlet.

⚠WARNING: Connect to a grounded outlet to reach the power source.

■ Setup the Pump Tube

The following explains how to setup the Pump Tube.

Note: When setting the Pump Tube, wear gloves.



(1) Turn the power on.

Press the [1] side of the switch.
When the QuickGene-810 has been initialized, the LCD displays "DNA WHOLE BLOOD" (this name can be changed). It takes about a minute.

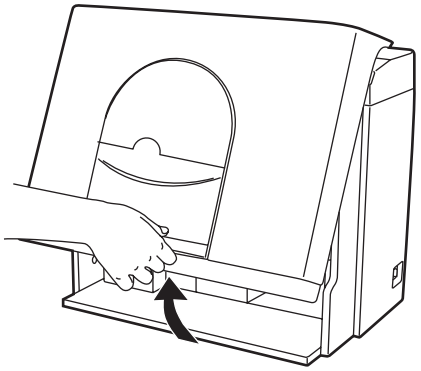
(2) Press the [DISCHARGE] button.

Press the [DISCHARGE] button. This operation makes the pump rotate to the position for ease to setup pump tubes.

(3) Turn off the power.

Press the [O] side of the switch.

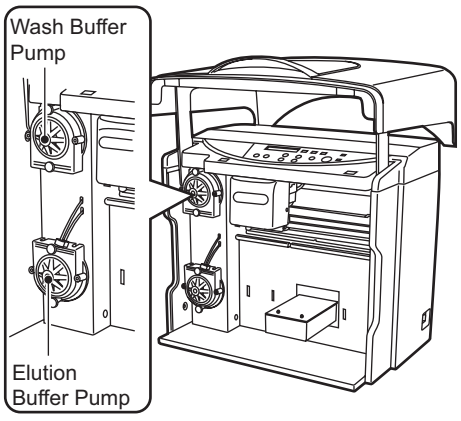
(4) Open the front cover.



Hold the handle and open the front cover until the upper limit is reached.

⚠ CAUTION: The front cover will not stay on the way to the upper limit. If you release the front cover while opening it, it may cause injury or device damage.

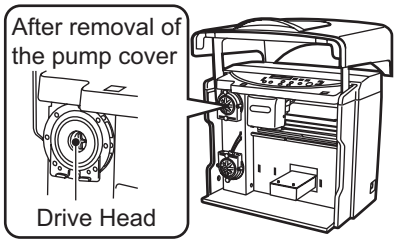
(5) Attach the Pump Tube to the pump.

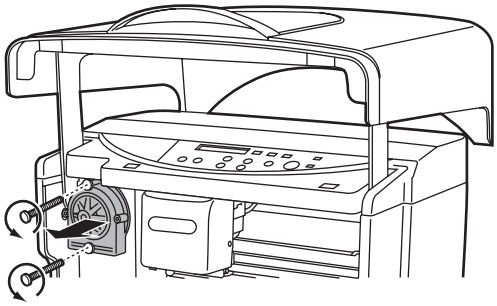


Attach the Pump Tube to both the Wash Buffer Pump and the Elution Buffer Pump.

Important:

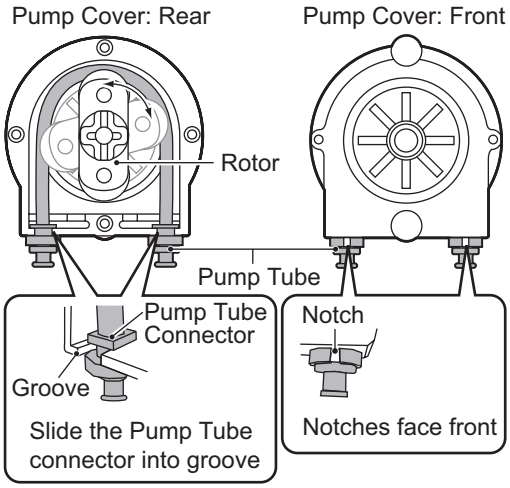
When attaching the Pump Tube, wear gloves. Do not touch the Drive Head in the pump without gloves.





(a) Detach the pump cover.

Loosen and remove the screws to detach the pump cover.



(b)Attach the Pump Tube to the rear of the Pump Cover.

Slide the connectors at the ends of the Pump Tube into the grooves of the Pump Cover.

Check that the notches on both connectors are facing the front of the Pump Cover.

Slide the Pump Tube into place inside the Pump Cover by rotating the rotor.

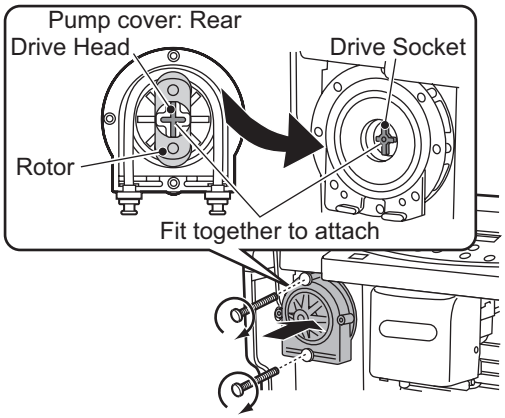
Adjust the rotor to its original vertical position.

Use the Pump Tube as labeled "ELUTION Pump Tube" or "WASH Pump Tube" for each pump.

Spare pump tube is available for either pump.

Important:

Check the both end of the Pump Tube are placed the grooves.



(c)Attach the pump cover.

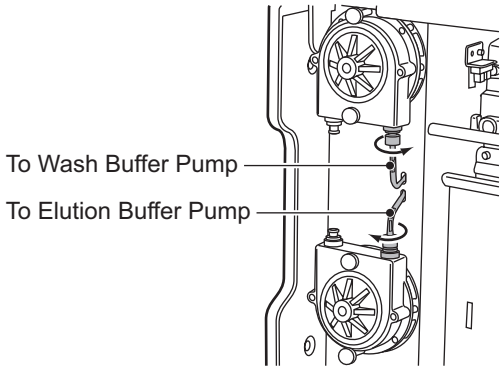
Turn the rotor vertical position, then re-attach the pump cover to the retainer, making sure that the drive head and drive socket are correctly mated.

Secure the pump cover in place with the original 2 screws.

Important:

•Check the Pump Cover is fixed well to the Rear. Then tighten the screws until the spring washer is squeezed.

(6) Connect the tube on the device side to the Pump Tube as the figure.

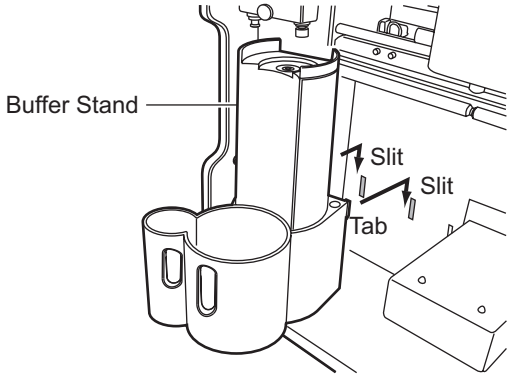


Connect the upper tube to the Wash Buffer Pump, and connect the lower tube to the Elution Buffer Pump, by turning as shown in the figure.

■ Setup the Buffer Stand

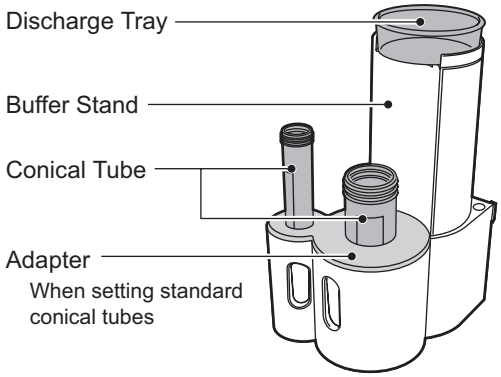
The following explains how to install the Buffer Stand.

(1) Attach the Buffer Stand to the QuickGene-810.



Insert the tabs of the Buffer Stand in the slits on the QuickGene-810.

(2) Set empty conical tubes into the Buffer Stand.



Set two conical tubes (for elution buffer and wash buffer).
When using standard conical tubes, attach the adapter to the Buffer Stand.

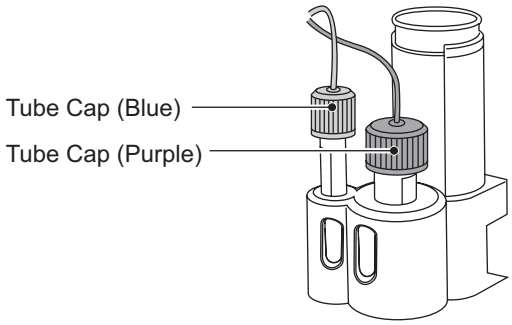
(3) Set the Discharge Tray to the Buffer Stand.

Note: When the carrier is on the left and it is difficult to attach the Buffer Stand, close the front cover and press the [CR MOVE] button. Then the carrier moves to the right end.

■ Setup the Tube Cap

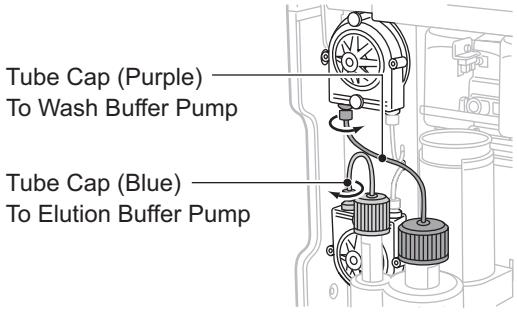
The following explains how to install the Tube Cap.

(1) Set the Tube Cap on the conical tube.



- Set the purple cap on the conical tube for wash buffer (right).
- Set the blue cap on the conical tube for elution buffer (left).

(2) Connect the Tube Cap and the Pump Tube.



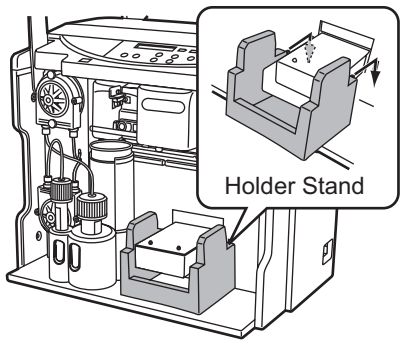
Check the combination of the Pump Tube and Tube Cap label, and then turn the connector to connect them as shown in the figure.

- Connect the Pump Tube for the Wash Buffer Pump (upper, purple) and the purple Tube Cap.
- Connect the Pump Tube for the Elution Buffer Pump (lower, blue) and the blue Tube Cap.

■ Setup the Holder Carriage

The following explains how to install the Holder Carriage.

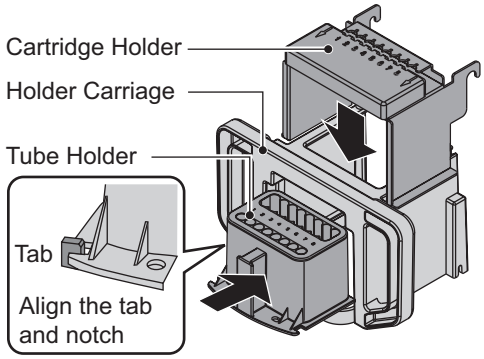
(1) Attach the Holder Stand to the QuickGene-810.



Insert the tabs of the Holder Stand in the slits on the QuickGene-810.

Note: After attaching the Holder Stand, check that there is no gap between the bottom of Holder Stand and the QuickGene-810.

(2) Set Tube Holder and Cartridge Holder in the Holder Carriage.

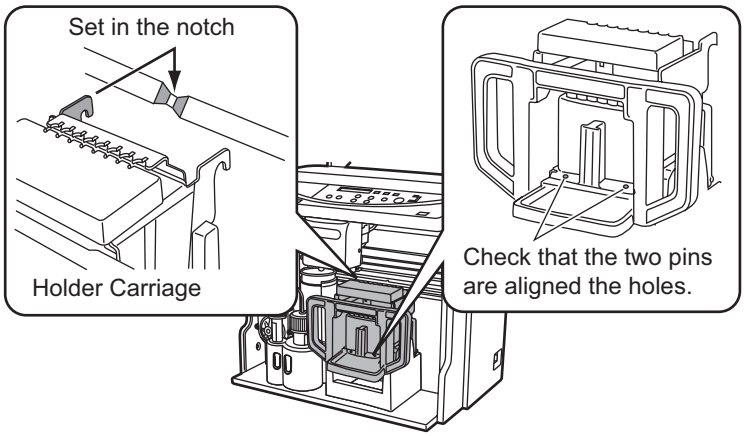


(3) Attach the Holder Carriage, which was prepared in (2), to the QuickGene-810.

Hold the handles of the Holder Carriage and attach the Holder Carriage onto the Holder Stand of the QuickGene-810.

After setting it, check the following:

- Check that the Cartridge Holder is firmly in place.
- Check that the Tube Holder rests firmly on the metal shelf and two pins are placed in the holes.



Note: When the carrier is in the center and it is difficult to attach the Holder Carriage, close the front cover and press the [CR MOVE] button. Then the carrier moves to the end.

(4) Close the front cover.

1.6 Checking QuickGene-810 Operation

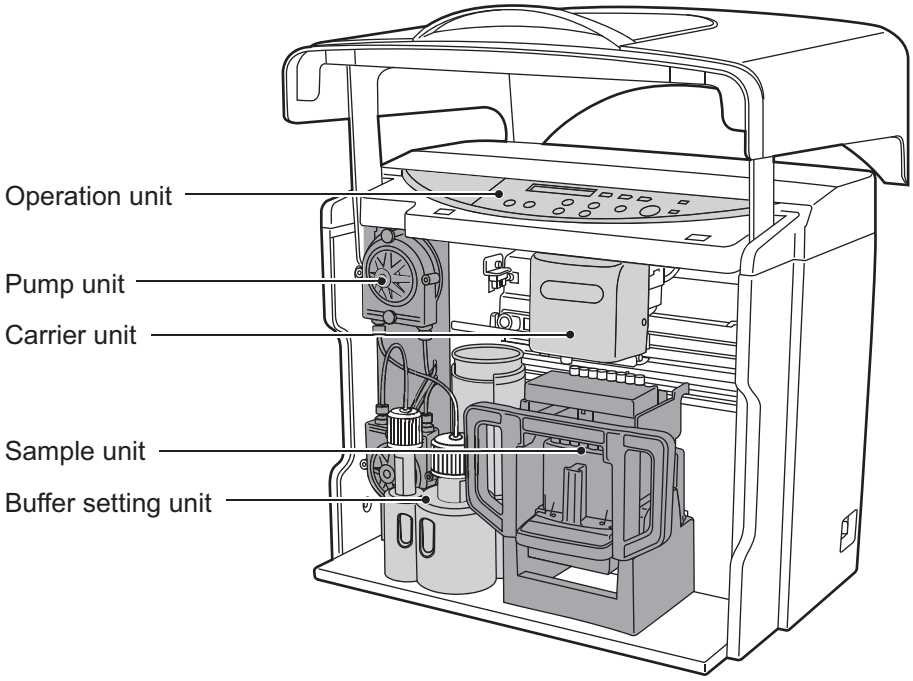
This section explains how to check the operation of QuickGene-810.
After all the parts are installed, check the operation of QuickGene-810.
To check the operation, use sterile distilled water instead of buffers and dissolved samples, and perform the same operation as the normal extraction operation.
For the extraction operation, refer to "3 Operation"(→ page 19).

2 Basic Functions

This chapter explains the basic functions of the QuickGene-810.

2.1 Components

The following describes the main components of the QuickGene-810:



Component	Function
Operation unit	Operate the buttons to select an extraction mode and start/stop an extraction process. The LCD and LEDs display the device status.
Buffer setting unit	The buffers (wash buffer, elution buffer) are set here. The buffers set are sent to the discharge unit through the pump unit.
Pump unit	Sends the buffers (wash buffer, elution buffer) to the pressure unit according to the extraction program.
Carrier unit	Puts pressurized air and buffers (wash buffer, elution buffer) into the cartridge and performs the extraction process (binding - washing - elution).
Sample unit	By moving the Tube Holder, the waste liquid and extracted liquid are discharged into the waste tube and collection tube, respectively.

2.2 Working Process of QuickGene-810

The following describes the working flow of the QuickGene-810:

(1) The extraction program is started by using the operation unit.

(2) The wash buffer and elution buffer are sent from the buffer setting unit to the pump unit.

(3) The wash buffer and elution buffer are sent from the pump unit to the carrier unit.

(4) The pressurized air, wash buffer, and elution buffer are sent from the carrier unit into the cartridge, and the extraction process is performed.

(5) The extracted sample is eluted to the collection tube set in the sample unit.

The waste is discharged to the waste tube.

2.3 Safety Mechanism

This section explains the safety mechanisms of the QuickGene-810.
The QuickGene-810 provides the following safety mechanisms:

- Front cover
- Earth leakage breaker
- LCD, Lamp (LED), and buzzer

■ Front cover

When the front cover is open, operations such as extraction processes cannot be performed.
Also, if the front cover is opened during the extraction process, it will be temporarily interrupted.
However, when the buffer pump is working, the pump will continue to work until the step is completed.
Operation can be restarted from this point in the process by pressing the start button.

Note: During the extraction process, do not open the front cover unless it is necessary.

■ Earth leakage breaker

When there is an electric leak or current surge caused by failures of the QuickGene-810, the earth leakage breaker will cut off the power supply.
If the earth leakage breaker trips, contact your local representative.

■ LCD, Lamp (LED), and buzzer

The LCD, Lamp (LED), and buzzer display the operating status of the QuickGene-810.

2.4 LCD Display Information

The following describes the messages displayed in the LCD during normal operations.
For the messages displayed in case of errors, refer to "6.3 Error Messages"(→ page 46).

Message	Contents
FIRMWARE: FVxxLxx	Shows the Software version. This appears when you turn on the power.
WAIT A MOMENT	Initializing the QuickGene-810 or disposing of the waste.
DNA WHOLE BLOOD	"DNA WHOLE BLOOD" mode is set to operate on the QuickGene-810. The operation has not started yet. A total of seven modes can be memorized.
PROCESSING	Working the extraction program.
COMPLETED	The extraction operation is completed. The extraction result will be displayed after showing this message for one second.
START SW → RESTART	Temporarily stops. This message is displayed in the following cases: • While waiting for the additional process • When opening the front cover during the extraction process to interrupt it, and then closing the cover • When pressing the [STOP] button during the extraction process
1?2?3?4?5?6?7?8?	This shows the extraction result. "?" indicates one of the following marks and meanings: ✓ (check): Successfully extracted - (hyphen): Extraction failure (Cartridge is clogged) _ (underscore): No cartridge, or No sample

2.5 Main Specifications

The following describes the main specifications of the QuickGene-810.

■ Main specifications

Items	Specifications
Model name	QuickGene-810
Dimensions	448mm (W) x 332mm (D) x 398mm (H)
Weight	21kg
Rated input voltage	AC100V±10% to AC240V±10%
Power frequency	50/60 Hz
Current consumption	0.7A to 0.4A
Phase	Single(with 3P grounding pole)
Range of temperature and relative humidity	Temperature: 15 - 30°C Humidity: 30 - 80%RH (non condensing)
Noises Geräuschentwicklung	70 dB (A) max. when measured at the position of 0.25 meters from the equipment surface and 1.2 meters from the floor. Max. 70 dB (A) bei Messung in einer Entfernung von 0,25 m vom Gerät und einer Höhe von 1,2 m über dem Boden.
Operation panel display	LCD 16 characters x 1 line
Samples	Max. 8 samples can be processed simultaneously
Sit	Indoor use only

■ Environmental conditions

EMC	FCC Rule Part15b ClassA	
	EN61326 ClassA	
	EN61000-3-2	
	EN61000-3-3	
Safety	UL61010A-1	CSA C22.2 No.1010
	EN61010-1	IEC61010-1
CE	LV directive (73/23/EEC)	
	EMC directive (89/336/EEC)	

FCC WARNING
Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case, the users will be required to correct the interference at their own expense.

Warning
This is a Class A product of Electromagnetic Interference (EMI) standard. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

This Class A digital apparatus complies whith Canadian ICES-003.
Cet appareil mumérique de la class A est comforme à la nomal NMB-003 du Canada.

3 Operation

This chapter explains how to turn the power on and off, and explains the extraction process.

Wear gloves and a mask during any operation with a Biohazard risk.

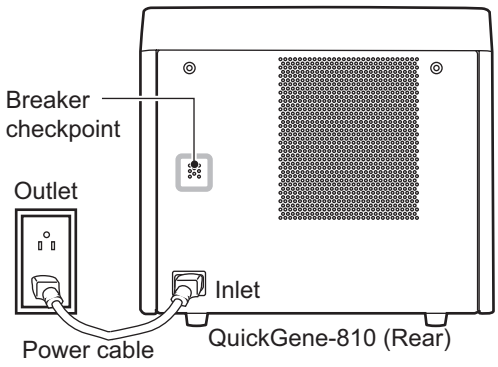
CAUTION: Do not place any objects containing liquid such as a tray on the QuickGene-810.
If the liquid spills, it may damage the operation panel.

Important: During the operation, put on appropriate gloves and a mask depending on the operation.
In the operation from preparing samples to extraction completion, be careful not to contaminate the samples with sweat, saliva, etc.

3.1 Turn the Power ON and OFF

This section explains how to turn the power of QuickGene-810 on and off.

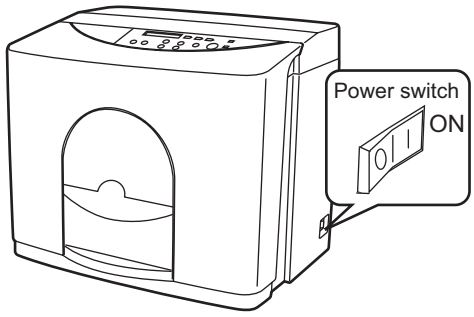
■ Turning on the power



(1) Check the power cable connection and the earth leakage breaker.

- Check whether the power cable is connected to the QuickGene-810 and the outlet. If not, connect it.
- Check that the earth leakage breaker has not tripped. When the breaker is OK you can see "I". If the breaker has tripped you will see "O". If you see "O", contact your local representative.

WARNING: Connect to a grounded outlet to reach the power source.



(2) Press the [I] side of the switch.

Just after the power is turned on, the LCD displays the software version for a few seconds, then changes the display to "WAIT A MOMENT". LCD displays extraction mode name, when the initialization has been completed. It takes about a minute for the initialize.

■ Turning off the power

(1) Press the [O] side of the switch.

3.2 Preparation

This section explains the preparation of the QuickGene-810 for an extraction process
The following procedures must be performed as preparation of the QuickGene-810:

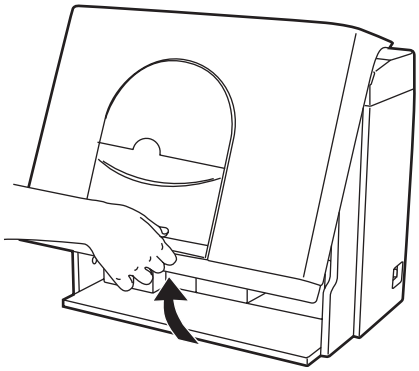
■ Preparation items

Before a test run or extraction operation, perform the following:

- Check all the parts are installed ("1.5 Setup Parts"(→ page 9)).
- Prepare the following:
  - Gloves
  - Mask
  - Conical Tubes (1 set) (*)
  - Collection Tube (CT) *provided with the kit
  - Waste Tube (WT) *provided with the kit
  - Cartridge (CA) *provided with the kit
  - Buffer (wash buffer, elution buffer) *provided with the kit
    (For a test run, use sterile distilled water)
  - Lysate (Samples)
    (For a test run, use sterile distilled water)
    For the preparation of samples, refer to each kit's handbook.

(*): Conical tubes are used for elution buffer and wash buffer.
Refer to "1.5 Setup Parts"(→ page 9).

■ Discharge



(1) Check the QuickGene-810 has been cleaned.

For clean up procedure, refer to "4.3 Cleaning the QuickGene-810"(→ page 32) and "4.4 Cleaning the Parts"(→ page 33).

(2) Turn on the power of QuickGene-810.

"3.1 Turn the Power ON and OFF"(→ page 19)

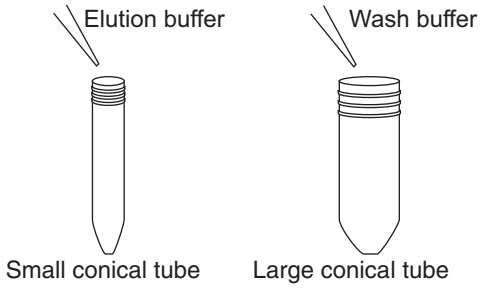
(3) Open the front cover.

Take the handle and open the front cover as shown in the figure.

⚠ CAUTION: The front cover will not stay on the way to the upper limit. If you release the front cover while opening it, it may cause injury or device damage.

(4) Check that the Discharge Tray is set on the Buffer Stand.

If it is not set, set it.
→ "■Setup the Tube Cap"(→ page 13)

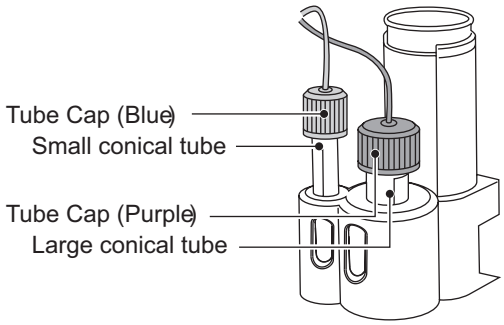


(5) Put buffers (wash buffer and elution buffer) into conical tubes.

Large conical tube: wash buffer
Small conical tube: elution buffer

Important:
Buffers can be used for a day in the conical tube inside the QuickGene-810.

(6) Set the conical tubes, which were prepared in (4), into the Buffer Stand, and put Tube Caps on the conical tubes.



Note: Do not touch the inner tube of Tube Cap. In the case of contamination, please refer to "6.4 When the Buffer is Contaminated"(→ page 46).

(7) Close the front cover.

(8) Press the [DISCHARGE] button on the operation panel.

3.3 Preparation of Lysate (Samples)

Prepare lysate (samples).
Make lysate(samples) using the specified kit for each sample.
For details, refer to the kit's handbook.

3.4 Extraction Operations

This section explains each operation before the start of a program and after the completion of a program.

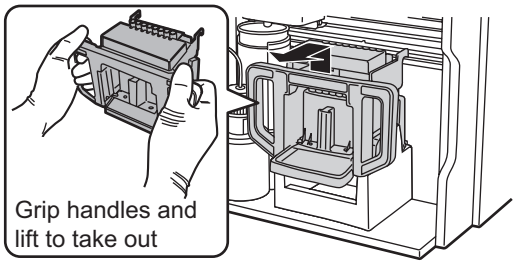
■ Operations before the start

Important: Perform the extraction operation according to the following procedures.

(1) Open the front cover.

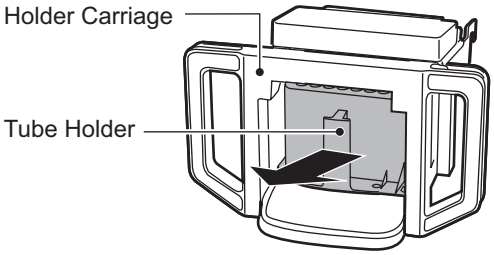
(2) Take the Holder Carriage out of the QuickGene-810.

Grip the handles, lift the Holder Carriage up, and then take it out.



Note: When the carrier is in the center and it is difficult to remove the Holder Carriage, close the front cover and press the [CR MOVE] button.

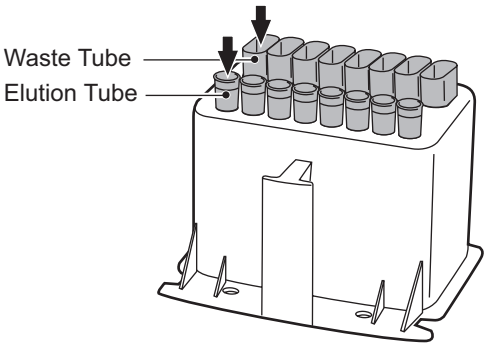
(3) Take the Tube Holder out of the Holder Carriage.



(4) Set collection tubes and waste tubes in the Tube Holder.

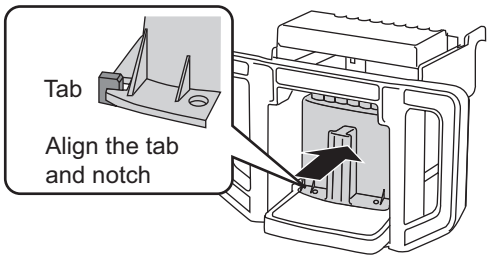
Important:

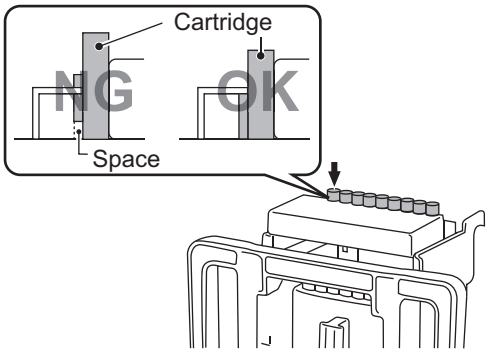
Put the tubes into the Tube Holder from the left without space.



(5) Set the Tube Holder into the Holder Carriage.

Align the tab and notch.

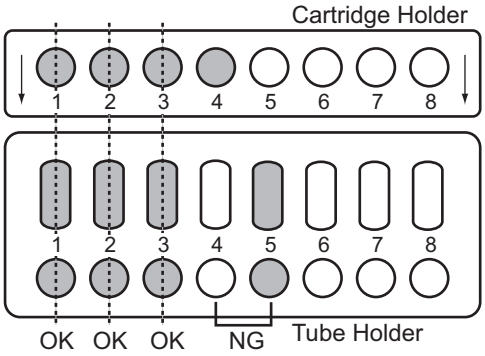




(6) Set cartridges into the Cartridge Holder.

Important:

- **Insert the cartridges into the cartridge holder (to the bottom of the holes).**
- **Set cartridges in the order of the number on the Tube Holder.**

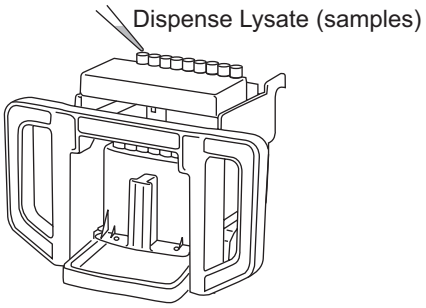


(7) Check the location of the tubes and cartridges.

Check that cartridges, collection tubes, and waste tubes are inserted in correct position as shown in the figure.

BIOHAZARD

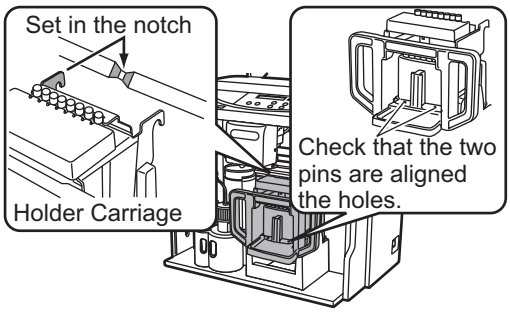
If they are not in order, the buffer and/or lysate may spill on the Holder Stand, causing a biohazard risk.



(8) Put lysate(samples) into each cartridge.

Use a pipette to transfer the lysate(samples) into the cartridges. In this operation, do not to touch the cartridges and the Cartridge Holder.

Note: If any lysate is left on the edge of the cartridge, wipe it with a Kimwipe® or paper tissue.



(9) Set the Holder Carriage into the QuickGene-810.

After setting it, check the following.

- Check that the Cartridge Holder is firmly in place.
- Check that the Tube Holder rests firmly on the metal shelf and two pins are placed in the holes.
  → "■Setup the Holder Carriage"(→ page 13)

(10) Close the front cover.

(11) Select an extraction mode.

Press the [MODE] button several times until the target extraction mode appears.

(12) Press the [START] button.

The QuickGene-810 automatically starts the extraction program.
LCD displays "PROCESSING" during extracting. Extraction progress can be checked by each lamp (LED).

Note:

- **Do not open the front cover during the extraction process (while PROCESSING is displayed in the LCD). If the front cover is opened, the extraction process will be halted. To continue the process, refer to "3.5 Operations to Restart Program from Pause"(→ page 28).**
- **To quit the process, refer to "3.6 Operations to Stop Extraction Process"(→ page 29).**
- **In some extraction modes, operations are required during processing. For details, refer to (TBD).**

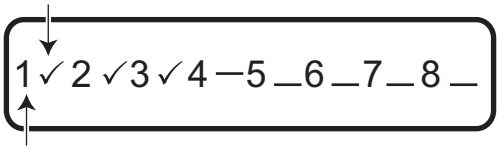
(13) Two beeps with all the three lamps (BINDING, WASHING, ELUTION) blinking indicate the process completion.

The LCD displays the extraction results.

Display	Meaning
✓ (check)	Successfully extracted
- (hyphen)	Extraction failure (Cartridge is clogged)
_ (underscore)	No cartridge, or No sample

[Display of extraction results]

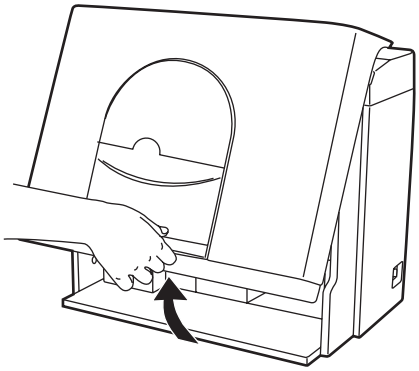
✓ ,—, and _ are extraction results



The numerics are cartridge numbers
Number 1 to 3: Extracted successfully.
Number 4: Extraction failed.
Number 5 to 8: There were no cartridges.

■ Optional Operation Procedure [WASH2 program]

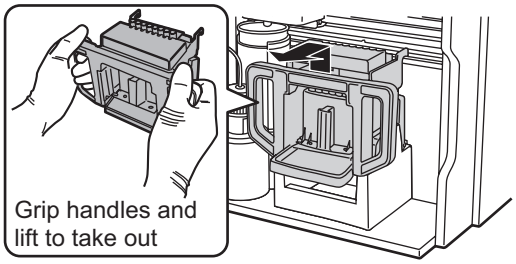
When you chose optional operation mode such as "xxx PLUS" mode (a program added WASH 2 process; see "5 How to Set Parameters"(→ page 37)), QuickGene-810 pauses after first WASH and LCD displays "START SW → RESTART". Then the following steps are continued the program.



(1) Open the front cover.

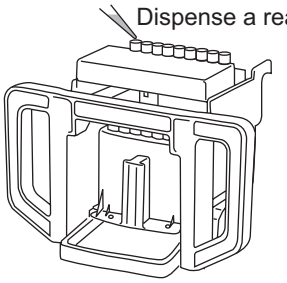
Open the front cover after LCD displays "START SW → RESTART" with 8 beeps.

⚠ CAUTION: The front cover will not stay on the way to the upper limit. If you release the front cover while opening it, it may cause injury or device damage.



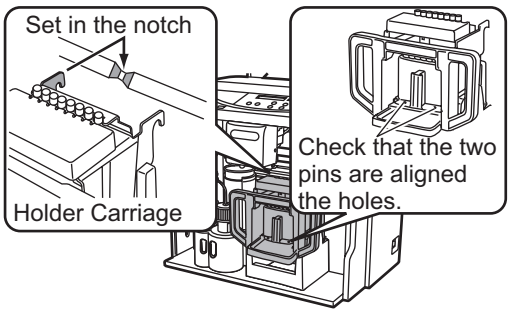
(2) Take the Holder Carriage out of the QuickGene-810.

Grip the handles, lift the Holder Carriage up, and then take it out.



(3) Perform the additional operations.

For example, dispense a reagent into the cartridges.



(4) Set the Holder Carriage into the QuickGene-810.

After setting it, check the following.

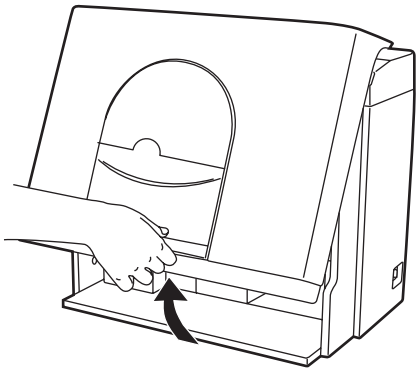
- Check that the Cartridge Holder is firmly in place.
- Check that the Tube Holder rests firmly on the metal shelf and two pins are placed in the holes.
  → "■Setup the Holder Carriage"(→ page 13)

(5) Close the front cover.

(6) Press the [START] button.

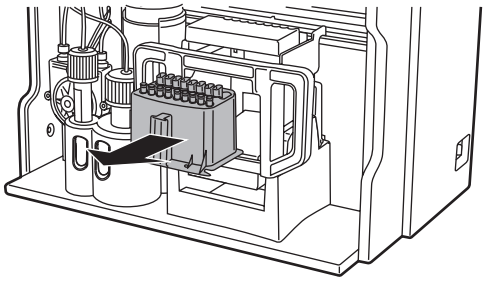
QuickGene-810 re-starts the program from the paused point. There may be no noise for a while, depending on the extraction mode or the settings, but the LCD should show a "PROCESSING".

■ Operations after the completion



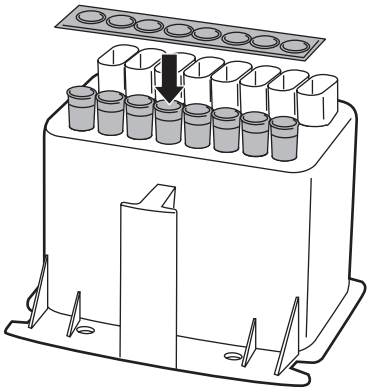
(1) Open the front cover.

CAUTION: The front cover will not stay on the way to the upper limit. If you release the front cover while opening it, it may cause injury or device damage.



(2) Take the Tube Holder out of the QuickGene-810.

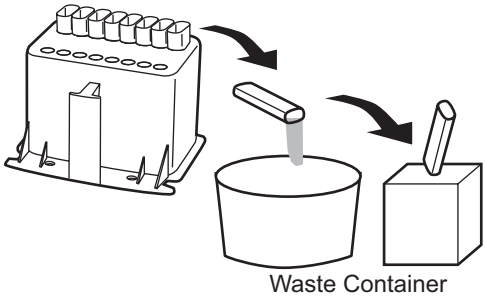
Note: •Take the handle of the Tube Holder.
•After taking off the Holder Carriage from the QuickGene-810, the Tube Holder cannot be taken out of the the Holder Carriage. Therefore, take only the Tube Holder out of the QuickGene-810.
•If you took off the Holder Carriage from the QuickGene-810, take off the Cartridge Holder first, and then take out the Tube Holder.



(3) Take the collection tubes out.

Put caps on the collection tubes. Then take the collection tubes out.

Note: Check the caps are put on the tubes completely.

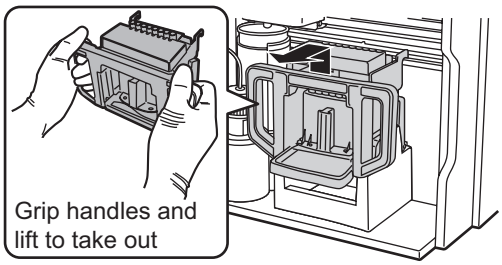


(4) Take the waste tubes out.

Dispose of the waste tubes according to appropriate laws and rules.

BIOHAZARD

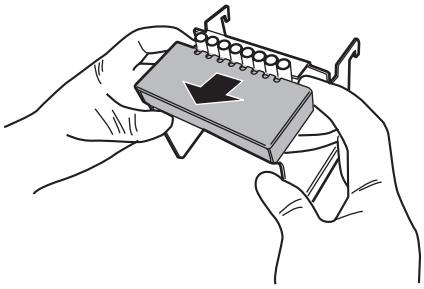
Dispose of the infectious wastes according to your biological safety manuals.



(5) Take the Holder Carriage out of the QuickGene-810.

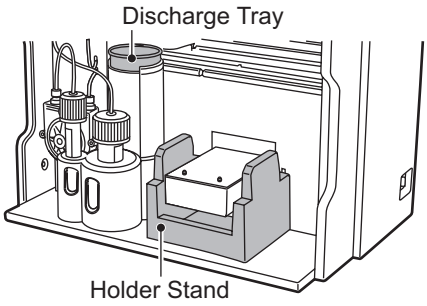
Grip the handles, lift the Holder Carriage up, and then take it out.

Note: When the carrier is in the center and it is difficult to remove the Holder Carriage, close the front cover and press the [CR MOVE] button.



(6) Remove the Cartridge Holder from the Holder Carriage, and dispose of the cartridges.

To drop down the cartridges, slide the upper part of Cartridge Holder as shown in the figure. Tilt the cartridge holder a little to make it easier to drop down the cartridges.
Dispose of the cartridges into a waste container.



(7) Check the Holder Stand and Discharge Tray.

If waste remains on them, dispose of it.

Note: When the carrier is on the left and it is difficult to remove the Discharge Tray, close the front cover and press the [CR MOVE] button.

(8) Set the Cartridge Holder and Tube Holder in the Holder Carriage, and then restore them to the QuickGene-810.

→ "■Setup the Holder Carriage"(→ page 13)

(9) Close the front cover.

The operation has been completed.

- Turn off the power of QuickGene-810.
- Dispose of the remaining buffer.
- Clean the dirty parts.

Refer to "4 Maintenance"(→ page 31) for maintenance details.

Important: After QuickGene-810 operation, if it will not be used for one week or more, put 7ml of ethanol in both conical tubes, then execute the discharge operation 4 times. After the discharge operation, check the tube is no ethanol remaining. (→ "4 Maintenance"(→ page 31)).

3.5 Operations to Restart Program from Pause

When the front cover is opened during PROCESSING. Then the program is halted and the LCD displays "COVER OPEN". If this occurs while the wash buffer pump or elution buffer pump is running, operation of the device will not be paused until the process for one cartridge is completed.
After that, the extraction process can be resumed from the operation panel.
To resume the operation after opening the front cover during extraction operation, perform the following procedures.
To quit the program, refer to "3.6 Operations to Stop Extraction Process"(→ page 29).

Note: When the front cover is opened, do not remove the cartridges or tubes in the QuickGene-810. Also, do not move the pressure head.
Extraction process restarts from the position where the process was paused. Operations such as discharge may be performed even without cartridges or tubes, which may result in liquid spill.

(1) Close the front cover.

(2) Press the [START] button when "START SW - RESTART" is displayed on the LCD.

QuickGene-810 will restart from the position where the program is paused.

Restarting operations vary depending on the timing when the front cover is opened (when the operation is paused).
The following shows the timing when the front cover is opened and the restart operations.

Process status	Operations when opening the front cover	Operations at restart
During initialization	All operations stop	The pressure head returns to the original position, then the operations restart from the paused position.
During binding	All operations stop	• The pressure head returns to the original position, then moves to the paused position. Operations restart beginning with the cartridge that was in operation. • If the operation is paused while applying pressure, pressure application is performed again starting with the applicable cartridge.
During washing	• All operations stop, except for wash buffer pump and elution buffer pump. • During the wash buffer or elution buffer discharge process, the operations stop after discharge for one cartridge	If stopped while applying pressure • The pressure head moves to the paused position, and only pressure application restarts. • If wash buffer or elution buffer was being discharged, operations restart with the next cartridge. If stopped when pressure application was completed or with no pressure application • The pressure head moves to the next cartridge of the cartridge being processed, then pressure application and wash buffer discharge processes restart.
During elution		

3.6 Operations to Stop Extraction Process

To stop the extraction operation, perform the following procedures:

(1) Press the [STOP] button, or open the front cover.

The LCD displays a message as follows:
If the [STOP] button is pressed: "START SW → RESTART"
If the front cover is opened: "COVER OPEN"

(2) In the case when the front cover is opened, close the front cover.

(3) When the LCD displays "START SW → RESTART", press the [RESET] button (not the [START] button) to stop the process.

The mid-process extraction results will be displayed on the LCD.

(4) Perform the operation at extraction completion.

→ "■Operations after the completion"(→ page 26)

3.7 Quick Guide

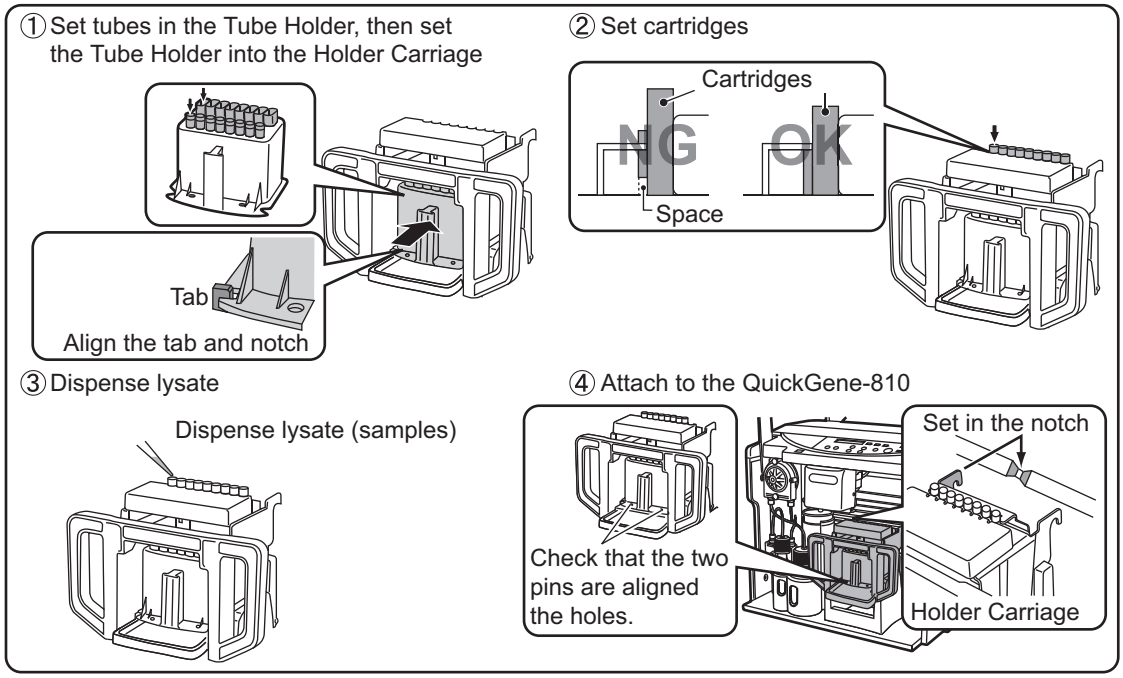
When performing an extraction operation, check and follow the following:

- Execute discharge first

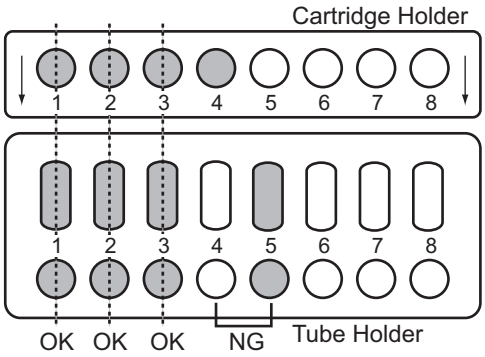
  Please execute discharge first.
  This operation discharges the old wash buffer, elution buffer, and air remaining in the tubes, and refills new wash buffer and elution buffer.
  After the discharge operation, dispose of the liquid collected in the Discharge Tray.
  → "■Discharge"(→ page 20)

- Follow the setting order, and set them correctly.

  When setting the Tube Holder and Cartridge Holder into the Holder Carriage, follow the steps below to set them correctly (→ "■Operations before the start"(→ page 21)).
  Failure to do so may cause the sample to spill.



- Set cartridges, collection tubes, and waste tubes in the correct positions.



Insert the cartridges and tubes starting from the left, in order.

If they are not in order, a spill of buffer and/or dissolved sample may occur. This results in an extraction failure, and buffer and/or dissolved sample waste.

4 Maintenance

This chapter describes how to maintain the QuickGene-810.

BIOHAZARD

When cleaning the QuickGene-810, wear gloves.

4.1 Before Using the QuickGene-810

Before using the QuickGene-810, perform the following tasks:

- Keep clean inside the instrument and parts
- Supply/Replace buffers (wash buffer and elution buffer)
  The buffers must be used within one day from when they are set in the QuickGene-810.

  Execute the discharge operation when replacing the buffers in the tubes in QuickGene-810.

4.2 When the QuickGene-810 is left for a Week or More

Even after completing the operation and turning off the power, there are buffers (wash buffer, elution buffer) remaining in the QuickGene-810. When the QuickGene-810 will not be used for a week or more, the remaining buffers may become crystallized, and cause a clog or damage to the tubes.
Discharge the remaining buffers from the QuickGene-810 and clean the inside with ethanol.

■ Tasks required when the device is not used for a week or more

If the QuickGene-810 will not be used for a week or more after the operation, perform the following procedures:

(1) Put 7ml of ethanol in both conical tubes for wash buffer and elution buffer, and perform the discharge operation.

For the discharge operation, refer to "■ Discharge"(→ page 20).

(2) Repeat the discharge operation 4 times, check the tube is no ethanol remaining.

(3) Dispose of the waste in the Discharge Tray.

(4) Turn off the power.

■ Tasks required when the QuickGene-810 is used again (after one week or more)

When using the QuickGene-810 again, perform the following procedures:

(1) Put 7ml of sterile distilled water in both conical tubes for wash buffer and elution buffer, and perform the discharge operation.

Perform the discharge operation 4 times.
For the discharge operation, refer to "■ Discharge"(→ page 20).

(2) Dispose of the waste in the Discharge Tray.

(3) Perform the extraction operation as usual.

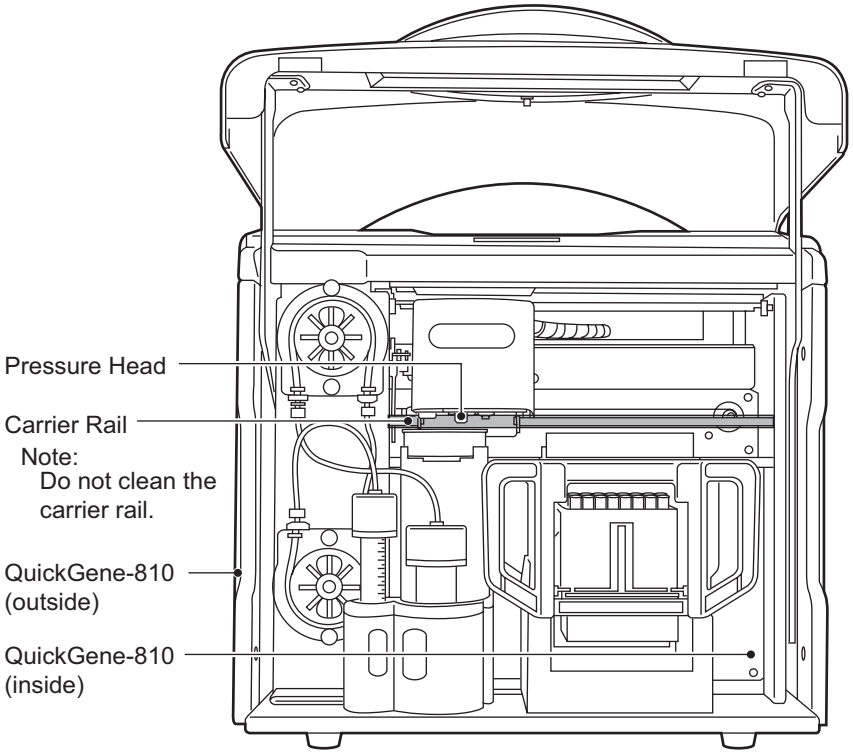
4.3 Cleaning the QuickGene-810

This section explains how to clean the QuickGene-810.

WARNING: Before starting the maintenance work, turn off the power of QuickGene-810 and disconnect the power plug from the outlet. Otherwise, it may cause an electric shock.

Note: When cleaning the QuickGene-810, wear gloves.

The following describes the parts to clean and cleaning methods:



Parts to clean	Cleaning methods
Pressure Head	Wipe with a Kimwipe® or paper tissue soaked with ethanol.
QuickGene-810 (outside)	Remove the dust lightly with a dry, soft cloth.
QuickGene-810 (inside)	Wipe with a Kimwipe® or paper tissue soaked with 0.5% sodium hypochlorite solution. Remove the dust lightly with a dry, soft cloth.

4.4 Cleaning the Parts

The following table describes how to clean the parts.

Parts	Cleaning methods
Holder Carriage	Clean the parts using one of the following methods. (1) Clean with neutral detergent, and then wash out with distilled water. Next, dip into 3% hydrogen peroxide solution at room temperature for 10 minutes. Lastly, wash the solution out with DEPC water, and dry the parts. (2) Soak in a 0.1N sodium hydroxide/0.1% EDTA solution overnight, and then wash the solution out with DEPC water, and dry the parts. (3) Clean the parts with neutral detergent, then wash out with 0.5% sodium hypochlorite solution, and dry the parts.
Cartridge Holder	
Tube Holder	
Buffer Stand	
Adapter	
Holder Stand	
Discharge Tray	After using the QuickGene-810, dispose of the liquid collected in the Discharge Tray, and wash the tray with water.
Pump Tube	Wipe with a Kimwipe® or paper tissue soaked with ethanol.
Tube Cap	Wipe with a Kimwipe® or paper tissue soaked with ethanol.

4.5 How to Replace the Pump Tube

This section explains how to replace the Pump Tube.
If the Pump Tube is continuously used without this maintenance, the Pump Tube may break and the buffer may leak. It is recommended that the Pump Tube be replaced before the required replacement date.

Note: If the QuickGene-810 will not be used for 1 year or more, the Pump Tubes must be removed from the device.

- Pump Tube for elution buffer

  The Pump Tube need to replace until about 50,000 extraction operations.

- Pump Tube for wash buffer

  Replacing the Pump Tube is necessary approximately 3 years after the beginning of QuickGene-810 use, or before performing 20,000 extraction operations.

Replace the Pump Tube with the spare one included in the package. If all the tubes have been used, purchase them separately as needed.
When purchasing them, contact the Customer Center.

■ How to Replace the Pump Tube

Perform the following procedures to replace the Pump Tube.

CAUTION: When replacing the Pump Tube, wear gloves.

(1) Turn the power on.

Press the [I] side of the switch.

(2) Press the [DISCHARGE] button.

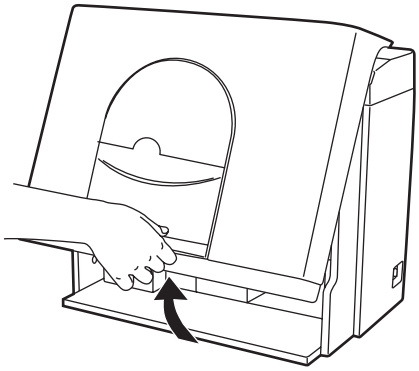
All the liquid in the tubes will be discharged.
In addition, pressing the [DISCHARGE] button makes the pump rotate to the position for attaching the pump cover.

(3) Turn off the power.

Press the [O] side of the switch.

(4) Open the front cover.

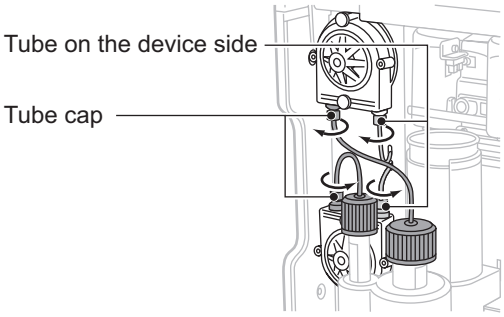
Hold the handle and open the front cover until the upper limit is reached.



CAUTION: The front cover will not stay on the way to the upper limit. If you release the front cover while opening it, it may cause injury or device damage.

(5) Take off both the tube on the device side and the Tube Cap from the Pump Tube.

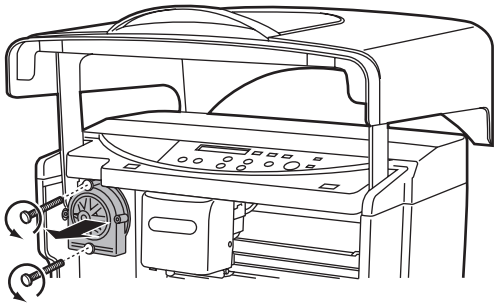
Take off both tube caps (purple and blue) by turning the connection points as shown in the figure.

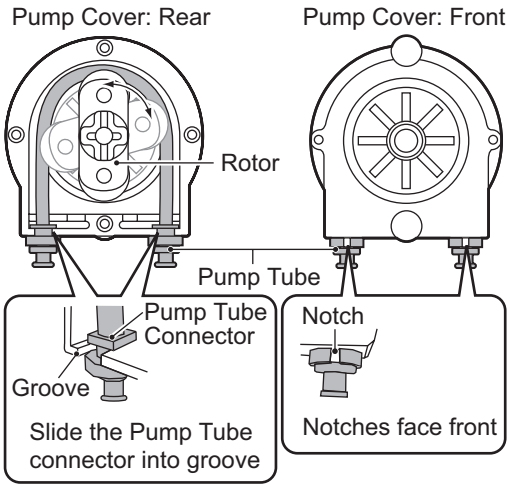


(6) Take off the Buffer Stand from the QuickGene-810.

(7) Detach the pump cover.

Loosen and remove the screws to detach the pump cover.





(8) Take off the Pump Tube from the pump, and attach a new Pump Tube to the rear of the Pump Cover.

Slide the connectors at the ends of the Pump Tube into the grooves of the Pump Cover.
Check that the notches on both connectors are facing the front of the Pump Cover.
Slide the Pump Tube into place inside the Pump Cover by rotating the rotor.
Adjust the rotor to its original vertical position.
Use the Pump Tube as labeled "ELUTION Pump Tube" or "WASH Pump Tube" for each pump.
Spare pump tube is available for either pump.

Important:

Check the both end of the Pump Tube are placed the grooves.

Note: Use the specified Pump Tube.

After this, the procedure is the same as in "How to install the Pump Tube". For details, refer to "■ Setup the Pump Tube"(→ page 10).

5 How to Set Parameters

This chapter explains how to set parameters.
"Set Parameters" means to change the values (such as buffer volume, number of discharges, etc.) for each extraction mode.
The name of each extraction mode can be selected from 35 names.
The parameters set in the QuickGene-810 are stored in 7 separate memory areas. Therefore, even if an extraction mode name is changed, the parameter values will not be changed.

- → "5.2 How to Set/Change Parameters" (page 39)
- → "5.4 Changing Extraction Mode Names" (page 43)

Important:
- **The setup is used to change the parameters, according to new protocol of the kit, etc. Please check the parameters for each kit's Handbook.**
- **In the case of wrong value for parameters, it will cause buffer spill or sample extraction failure.**
  It is the user's responsibility to change the parameters.
- **In EXPERT mode, there are some crucial parameters. Therefore, you must not change any parameters in EXPERT mode without our guidance.**

5.1 Parameters

Settings of each parameter can be changed from the setup mode.
Some parameters are changed from the normal setup mode (USER mode) and others are changed from the EXPERT mode.
The following table shows the display sequence, setting range, default value, etc. for each parameter in USER mode.

Display sequence	LCD message	Setting range	Unit	Mode name (The value displays the default)						
				DNA WHOLE BLOOD	RNA CELL	RNA CELL PLUS	DNA TISSUE	RNA TISSUE	RNA TISSUE PLUS	PLASMID
1	BIND PEAK	50 - 160	kpa	120	120	120	120	120	120	120
2	WASH COUNT	0 - 5	time(s)	3	3	1	3	3	1	2
3	WASH PEAK	50 - 160	kpa	110	110	110	110	110	110	110
4	WASH VOL1	250 - 750	µl	750	500	500	750	750	750	750
5	WASH VOL2	250 - 750	µl	750	500	500	750	750	750	750
6	WASH VOL3	250 - 750	µl	750	500	500	750	750	750	750
7	WASH VOL4	250 - 750	µl	750	500	500	750	750	750	750
8	WASH VOL5	250 - 750	µl	750	500	500	750	750	750	750
9	WASH DIP TM	0 - 510	sec	0	150	150	0	150	150	0
10	WAS2 WAIT T	0 - 255	min	0	0	5	0	0	5	0
11	WAS2 COUNT	0 - 5	time(s)	0	0	2	0	0	2	0
12	WAS2 PEAK	50 - 160	kpa	110	110	110	110	110	110	110
13	WAS2 VOL1	250 - 750	µl	750	500	500	750	750	750	750
14	WAS2 VOL2	250 - 750	µl	750	500	500	750	750	750	750
15	WAS2 VOL3	250 - 750	µl	750	500	500	750	750	750	750
16	WAS2 VOL4	250 - 750	µl	750	500	500	750	750	750	750
17	WAS2 VOL5	250 - 750	µl	750	500	500	750	750	750	750
18	ELUT VOL	50 - 400	µl	200	100	100	200	100	100	50
19	ELUT PEAK	50 - 160	kpa	100	100	100	100	100	100	100
20	ELUT DIP TM	0 - 510	time(s)	0	30	30	90	30	30	0

The following table shows the meaning of each parameter.

Display sequence	LCD message	Parameter name	Meaning
1	BIND PEAK: 50 - BIND PEAK: 160	Peak pressure on the sample	Sets the peak pressure during pressure application. Judgment criteria is "the pressure before pressure application + the pressure set in this item". Pressure application may be stopped before reaching the peak pressure, if air pressure drops suddenly, indicating that all liquid has been discharged. Can be specified between 50 - 160 kpa in increments of 1kpa.
2	WASH COUNT: 0 - WASH COUNT: 5	Frequency of wash buffer discharges	Sets the frequency of wash buffer discharges. Can be specified between 0 - 5 times.
3	WASH PEAK: 50 - WASH PEAK: 160	Wash buffer peak pressure	Sets the peak pressure during pressure application. Judgment criteria is "the pressure before pressure application + the pressure set in this item". Pressure application may be stopped before reaching the peak pressure, if air pressure drops suddenly, indicating that all liquid has been discharged. Can be specified between 50 - 160 kpa in increments of 1kpa.
4	WASH VOL1: 250 - WASH VOL1: 750	1st Wash Buffer Discharge Rate	Sets the first wash buffer discharge rate. Can be specified between 250 - 750µl in increments of 50l.
5	WASH VOL2: 250 - WASH VOL2: 750	2nd WBDR	Sets the second wash buffer discharge rate. Can be specified between 250 - 750µl in increments of 50l.
6	WASH VOL3: 250 - WASH VOL3: 750	3rd WBDR	Sets the third wash buffer discharge rate. Can be specified between 250 - 750µl in increments of 50l.
7	WASH VOL4: 250 - WASH VOL4: 750	4th WBDR	Sets the fourth wash buffer discharge rate. Can be specified between 250 - 750µl in increments of 50l.
8	WASH VOL5: 250 - WASH VOL5: 750	5th WBDR	Sets the fifth wash buffer discharge rate. Can be specified between 250 - 750µl in increments of 50l.
9	WASH DIP TM: 0 - WASH DIP TM: 510	Wash buffer immersion management timer	Sets the wash buffer immersion management time. Can be specified between 0 - 510 sec. in increments of 2 seconds.
10	WAS2 WAIT T: 0 - WAS2 WAIT T: 255	Waiting time	Sets the time to wait for shifting to wash buffer discharges in the second round. Can be specified between 0 - 255 min. in increments of 1 minute.
11	WAS2 COUNT: 0 - WAS2 COUNT: 5	Frequency of wash buffer discharges in the 2nd round	Sets the frequency of wash buffer discharges in the second round. Can be specified between 0 - 5 times.
12	WAS2 PEAK: 50 - WAS2 PEAK: 160	Wash buffer peak pressure in the 2nd round	Sets the peak pressure during pressure application. Judgment criteria is the pressure before pressure application + the pressure set in this item. Pressure application may be stopped before reaching the peak pressure, if air pressure drops suddenly, indicating that all liquid has been discharged. Can be specified between 50 - 160 kpa in increments of 1kpa.
13	WAS2 VOL1: 250 - WAS2 VOL1: 750	1st WBDR in the 2nd round	Sets the first wash buffer discharge rate in the second round. Can be specified between 250 - 750µl in increments of 50l.
14	WAS2 VOL2: 250 - WAS2 VOL2: 750	2nd WBDR in the 2nd round	Sets the second wash buffer discharge rate in the second round. Can be specified between 250 - 750µl in increments of 50l.
15	WAS2 VOL3: 250 - WAS2 VOL3: 750	3rd WBDR in the 2nd round	Sets the third wash buffer discharge rate in the second round. Can be specified between 250 - 750µl in increments of 50l.
16	WAS2 VOL4: 250 - WAS2 VOL4: 750	4th WBDR in the 2nd round	Sets the fourth wash buffer discharge rate in the second round. Can be specified between 250 - 750µl in increments of 50l.
17	WAS2 VOL5: 250 - WAS2 VOL5: 750	5th WBDR in the 2nd round	Sets the fifth wash buffer discharge rate in the second round. Can be specified between 250 - 750µl in increments of 50l.

Display sequence	LCD message	Parameter name	Meaning
18	ELUT VOL: 50 - ELUT VOL: 400	elution buffer discharge rate	Sets the elution buffer discharge rate. Can be specified between 50 - 400l in increments of 50l.
19	ELUT PEAK: 50 - ELUT PEAK: 160	elution buffer peak pressure	Sets the peak pressure during pressure application. Judgment criteria is "the pressure before pressure application + the pressure set in this item". Pressure application may be stopped before reaching the peak pressure, if air pressure drops suddenly, indicating that all liquid has been discharged. Can be specified between 50 - 160 kpa in increments of 1kpa.
20	ELUT DIP TM: 0 - ELUT DIP TM: 510	elution buffer immersion management timer	Sets the elution buffer immersion management time. Can be specified between 0 - 510 sec. in increments of 2 seconds.

5.2 How to Set/Change Parameters

Settings of each parameter can be changed from the setup mode.

■ How to change Parameters

The following explains how to change settings of each parameter.

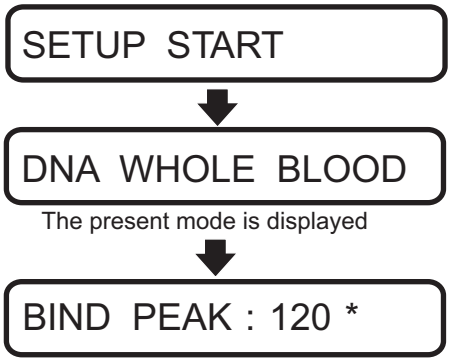
(1) Select the extraction mode.

Press the [MODE] button several times until the target extraction mode appears.

(2) Press the [▲] [▼] buttons simultaneously.

When the LCD displays as shown in the figure, the setup mode starts.

[Example of messages dispalyed in operation panel]



- * is the value saved in the memory

(3) Press the [MODE] button several times until the target parameter appears.

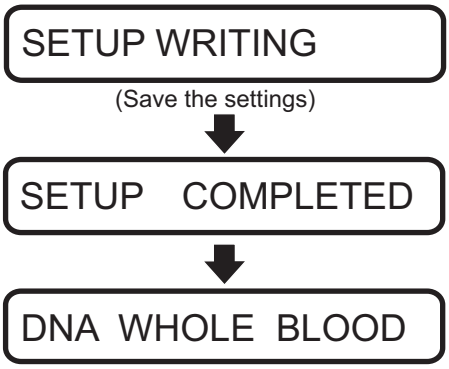
To return to the previous parameter, press the [DISCHARGE] button.

(4) Change the parameter settings using the [▲] [▼] buttons.

- [▲] switch: raises the setting value.
- [▼] switch: lowers the setting value.
- Holding one of the above switches down can change the setting values consecutively.

When changing other items, repeat steps (3) and (4).

[Display on operation panel]



(5) Press the [START] button then save the changed parameters.

The saved parameters are written into non-volatile memory. The data will not be lost even if the power is turned off.

When the LCD displays as shown in the figure at the left, the changed settings are saved and the setup mode ends.

Important:
To cancel the saving parameters, press the [STOP] or [RESET] button.
The setup mode ends without saving the changed parameters.

5.3 Parameters in EXPERT Mode

In EXPERT mode, in addition to the USER mode parameters values of special parameters can also be changed.

Important: You must not change any parameters without our guidance.

The following table shows the display sequence, setting range, default value, etc. for each parameter in EXPERT mode.

Display sequence	LCD message	Setting range	Unit	Mode name (The value displays the default)						
				DNA WHOLE BLOOD	RNA CELL	RNA CELL PLUS	DNA TISSUE	RNA TISSUE	RNA TISSUE PLUS	PLASMID
1	BIND COUNT	1 - 5		1	1	1	1	1	1	1
2	BIND SPEED	1 - 12		10	10	10	10	10	10	10
3	BIND PEAK	50 - 160	kpa	120	120	120	120	120	120	120
4	BIND UP TIME	1 - 50	sec	6	6	6	6	6	6	6
5	BIND RETRY	50 - 160	kpa	160	160	160	160	160	160	160
6	BIND LOWER	3 - 100	kpa	75	75	75	75	75	75	75
7	BIND DOWN TM	1 - 99	sec	25	25	25	25	25	25	25
8	BIND R DN T	1 - 100	sec	50	50	50	50	50	50	50
9	BIND FALL	5 - 60	kpa	60	60	60	60	60	60	60
10	WASH COUNT	0 - 5	time(s)	3	3	1	3	3	1	2
11	WASH SPEED	1 - 12		7	7	7	7	7	7	7
12	WASH PEAK	50 - 160	kpa	110	110	110	110	110	110	110
13	WASH UP TIME	1 - 50	sec	6	6	6	6	6	6	6
14	WASH RETRY	50 - 160	kpa	140	140	140	140	140	140	140
15	WASH LOWER	3 - 100	kpa	70	70	70	70	70	70	70
16	WASH DOWN TM	1 - 99	sec	15	15	15	15	15	15	15
17	WASH R DN T	1 - 100	sec	50	50	50	50	50	50	50
18	WASH FALL	5 - 60	kpa	60	60	60	60	60	60	60
19	WASH VOL1	250 - 750	µl	750	500	500	750	750	750	750
20	WASH VOL2	250 - 750	µl	750	500	500	750	750	750	750
21	WASH VOL3	250 - 750	µl	750	500	500	750	750	750	750
22	WASH VOL4	250 - 750	µl	750	500	500	750	750	750	750
23	WASH VOL5	250 - 750	µl	750	500	500	750	750	750	750
24	WASH DIP TM	0 - 510	sec	0	150	150	0	150	150	0
25	WAS2 WAIT T	0 - 255	min	0	0	5	0	0	5	0
26	WAS2 COUNT	0 - 5	time(s)	0	0	2	0	0	2	0
27	WAS2 SPEED	1 - 12		7	7	7	7	7	7	7
28	WAS2 PEAK	50 - 160	kpa	110	110	110	110	110	110	110
29	WAS2 UP TIME	1 - 50	sec	6	6	6	6	6	6	6
30	WAS2 RETRY	50 - 160	kpa	140	140	140	140	140	140	140
31	WAS2 LOWER	3 - 100	kpa	70	70	70	70	70	70	70
32	WAS2 DOWN TM	1 - 99	sec	15	15	15	15	15	15	15
33	WAS2 R DN T	1 - 100	sec	50	50	50	50	50	50	50
34	WAS2 FALL	5 - 60	kpa	60	60	60	60	60	60	60
35	WAS2 VOL1	250 - 750	µl	750	500	500	750	750	750	750
36	WAS2 VOL2	250 - 750	µl	750	500	500	750	750	750	750
37	WAS2 VOL3	250 - 750	µl	750	500	500	750	750	750	750

Display sequence	LCD message	Setting range	Unit	Mode name (The value displays the default)						
				DNA WHOLE BLOOD	RNA CELL	RNA CELL PLUS	DNA TISSUE	RNA TISSUE	RNA TISSUE PLUS	PLASMID
38	WAS2 VOL4	250 - 750	µl	750	500	500	750	750	750	750
39	WAS2 VOL5	250 - 750	µl	750	500	500	750	750	750	750
40	ELUT VOL	50 - 400	µl	200	100	100	200	100	100	50
41	ELUT COUNT	0 - 5	time(s)	1	1	1	1	1	1	1
42	ELUT SPEED	1 - 12		7	7	7	7	7	7	7
43	ELUT PEAK	50 - 160	kpa	100	100	100	100	100	100	100
44	ELUT UP TIME	1 - 50	sec	4	4	4	4	4	4	4
45	ELUT RETRY	50 - 160	kpa	140	140	140	140	140	140	140
46	ELUT LOWER	3 - 100	kpa	65	65	65	65	65	65	65
47	ELUT DOWN TM	1 - 99	sec	15	15	15	15	15	15	15
48	ELUT R DN T	1 - 100	sec	50	50	50	50	50	50	50
49	ELUT FALL	5 - 60	kpa	50	50	50	50	50	50	50
50	ELUT DIP TM	0 - 510	kpa	0	30	30	90	30	30	0
51	W DSVOL S	3000 - 5500	µl	3000	3000	3000	3000	3000	3000	3000
52	E DSVOL S	3000 - 5500	µl	3000	3000	3000	3000	3000	3000	3000
53	BUZZER	ON or OFF	-	ON	ON	ON	ON	ON	ON	ON
54	DETECT PRES	1 - 50	kpa	15	15	15	15	15	15	15
55	DOWN PRES	10 - 50	kpa	50	50	50	50	50	50	50

■ EXPERT mode

EXPERT mode is used to set more detailed parameters than in the normal setup mode.
The following explains how to shift to the EXPERT mode.

(1) Select the extraction mode whose parameter is to be changed.
Press the [MODE] button several times until the target extraction mode appears.

(2) Press the [▲] [▼] buttons simultaneously.
Setup mode starts.

(3) Hold down the [MODE] or [DISCHARGE] button until the following message is displayed on the LCD:
"EXPERT MODE? Y → ▲"

(4) Press the [▲] button.
Change the mode to the EXPERT mode.

Settings of parameters in EXPERT mode can be changed with the same procedures as in the normal setup mode. For details, refer to "■ How to change Parameters"(→ page 39).

5.4 Changing Extraction Mode Names

Extraction mode names displayed on the LCD can be changed.
Renaming is performed in RENAME mode.

Important: In RENAME mode, only extraction mode names are changed without changing parameter values of the corresponding modes.

The following names can be used for extraction mode name change:

Display sequence	Extraction mode name	Display sequence	Extraction mode name
1	DNA WHOLE BLOOD (Default)	19	DNA PLANT
2	RNA CELL (Default)	20	RNA PLANT
3	RNA CELL PLUS (Default)	21	DNA VIRUS
4	DNA TISSUE (Default)	22	RNA VIRUS
5	RNA TISSUE (Default)	23	SWAB
6	RNA TISSUE PLUS (Default)	24	STOOL
7	PLASMID (Default)	25	PCR PURIFY
8	ISOLATE A	26	GEL EXTRACTION
9	ISOLATE B	27	REACTION CLEANUP
10	ISOLATE C	28	DYE CLEANUP
11	ISOLATE D	29	RNA BACTERIA
12	ISOLATE E	30	DNA BACTERIA
13	ISOLATE F	31	BACTERIA PLUS
14	ISOLATE G	32	DNA YEAST
15	ISOLATE H	33	DNA CULTURE CELL
16	RNA BLOOD	34	DNA HAIR/NAIL
17	RNA BLOOD PLUS	35	DNA BUFFYCOAT
18	PLASMID B		

■ How to change extraction mode names

The following explains how to change extraction mode names.

(1) Select the extraction mode.
Press the [MODE] button several times until the target extraction mode appears on the LCD.

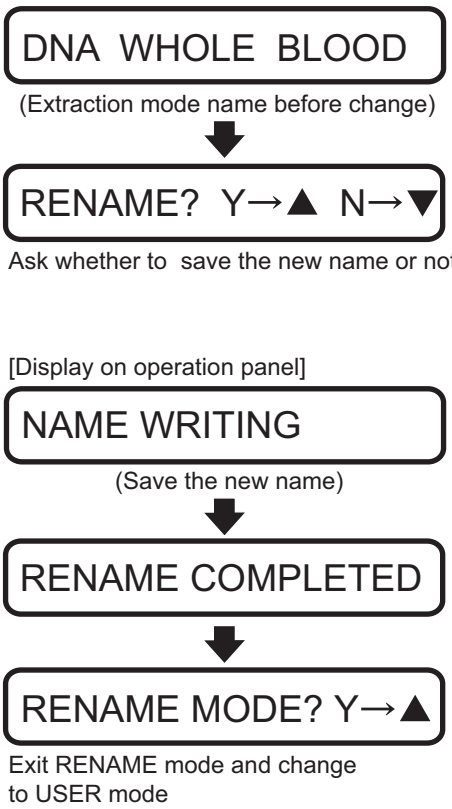
(2) Press the [▲] [▼] buttons simultaneously.
Setup mode starts.

(3) Press the [MODE] or [DISCHARGE] button several times until the following message is displayed on the LCD:
"RENAME MODE? Y → ▲"

(4) Press the [▲] button.
RENAME mode starts.

(5) Press the [▲] or [▼] button several times until the extraction mode name to be applied is displayed on the LCD.

[Display on operation panel]


DNA WHOLE BLOOD
(Extraction mode name before change)
RENAME? Y→▲ N→▼
Ask whether to save the new name or not
[Display on operation panel]
NAME WRITING
(Save the new name)
RENAME COMPLETED
RENAME MODE? Y→▲
Exit RENAME mode and change to USER mode

(6) Press the [START] button when the mode name to be applied is displayed on the LCD.

After the name before being changed is displayed on the LCD, a message to ask whether to save the new name is displayed.

(7) Press the [▲] button and save the new name.

When the LCD displays as shown in the figure on the left, the changed name is saved and the mode returns to the USER mode.

Important:

- **When not saving the new name, press the [▼] button.**
  The LCD display changes to the "RENAME MODE? Y → ▲" without saving the new name.
- **To cancel the new name, press the [STOP] or [RESET] button.**
  The setup mode ends without saving the new name, and the current extraction mode will be displayed.

5

6 Troubleshooting

This chapter describes the procedures that should be taken when you suspect device failures, and error messages shown on the LCD.

6.1 Extraction Failure

If samples cannot be extracted successfully, check the parameter settings.
If an inappropriate parameter value has been set, it will cause a buffer spill or sample extraction error. Be careful when changing the values. When changing parameters, follow the instructions of the kit's Handbook.
For details of parameter setting, refer to "Chapter 5 How to Set Parameters" (→ page 37).
If the problems cannot be solved, contact your local representative.

6.2 Typical Failure

Check the following items before contacting your local representative.

Phenomenon	Cause	Appropriate action
The QuickGene-810 does not start after turning on the power.	Is the power plug connected to the outlet?	Connect the power plug to the outlet completely.
When you opened the package, the circuit breaker had already been tripped.	There may be a current surge or electric leak caused by failure of the QuickGene-810.	Contact your local representative.
The extraction has stopped in the middle of the operation.	•Did you open the front cover during the operation? •It sometimes stops for time adjustment during extraction work.	During extraction work (While the operation panel displays "PROCESSING"), do not open the front cover. If you opened the front cover during the operation and it stopped the extraction work, refer to "3.5 Operations to Restart Program from Pause"(→ page 28).
The extraction work has stopped because the wash buffer and elution buffer will not flow through the nozzle.	Did you perform the discharge operation?	Do not forget to press the [DISCHARGE] button after putting the wash buffer and elution buffer into the conical tubes.
The preprocessed sample that has been dispensed in the cartridge does not steadily drop into the collection tube and the waste tube.	Is the cartridge inserted correctly into the Cartridge Holder?	•Insert the cartridges completely into the Cartridge Holder. •Set the collection tube and the waste tube corresponding to the cartridge inserting point.
	The position of collection Tube Holder table may be located in wrong place.	Contact your local representative.
The QuickGene-810 emits an abnormal noise.	A failure may be suspected.	Contact your local representative.
The QuickGene-810 emits an abnormal smell.		Turn off the power at once, and remove the power cable from the outlet. Then, contact your local representative.

Phenomenon	Cause	Appropriate action
Wash buffer or elution buffer does not flow through the nozzle.	Is the Pump Tube completely attached to the joint?	Connect the Pump Tube completely to the joint.
	Is there buffer in the conical tube?	When the conical tube is empty, put the buffer into the tube.
	Has the tube connecting the device to the pump become unfastened from the device?	Contact your local representative.

6.3 Error Messages

When an error message appears on the LCD, perform the appropriate action written in the table, and contact your local representative if necessary.
The error messages displayed on the LCD are as follows:

Message	Contents	Appropriate action
MT ER CR	Carrier motor or air pump has failed.	Contact your local representative. The message ("CR", "HD", "TB", and "WS") may appear at the same time, depending on failure type.
MT ER HD	The nozzle head motor has failed.	
MT ER TB	Table motor or lift motor has failed.	
MT ER WS	Wash buffer pump or elution buffer pump is not normal.	
POWER ALARM	The power voltage status is not normal.	Contact your local representative.
EEPROM ER U19	The program in the QuickGene-810 is not normal.	
EEPROM ER U18		
EEPROM ER ALL		
EEPROM ER CSUM		
LIFT POS ERR	Lift position is not normal.	
WD PUMP ERR	Wash buffer pump position is not normal.	
CD PUMP ERR	elution buffer pump position is not normal.	
PRESSURE ERR	Pressure sensor is not normal.	
COVER OPEN	The front cover is open.	Close the front cover after the necessary operation.
STOP SW PUSHED	The [STOP] switch is pressed, and the QuickGene-810 operation is stopped.	Press the [RESET] switch.

6.4 When the Buffer is Contaminated

When the buffer (wash buffer or elution buffer) is contaminated, wash the tube well following the procedure.

(1) Put 7ml of ethanol in the conical tube, and perform the discharge operation 4 times.

For the discharge operation, refer to → "■ Discharge" (page 20).

(2) Put 7ml of sterile distilled water in each conical tube, and repeat the discharge operation 4 times.

Appendix A

A.1 Usable Power Supply Cords

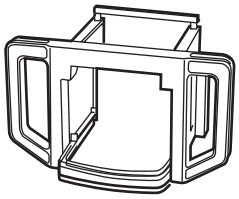
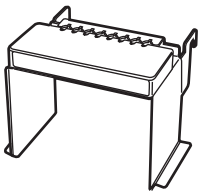
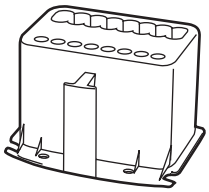
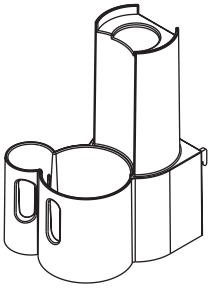
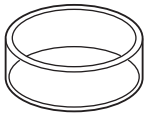
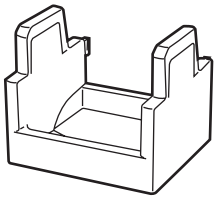
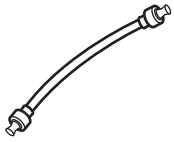
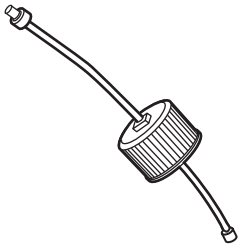
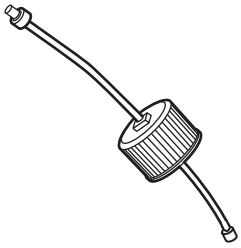
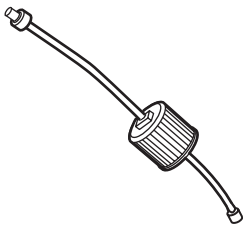
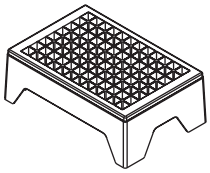
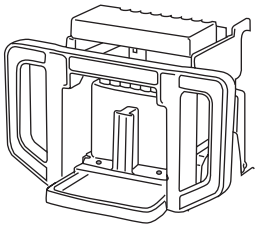
Model	Input	Connector	Cord	Attachment plug cap
North America <*1> <*2>	100-120 Vac	IEC60320 C-22 Rated 10A, 125Vac UL, CSA Approved	Type SJT, No.18 AWG Min. 3-Conductors(Single phase;2-current carrying conductors & ground) UL, CSA Approved	NEMA (5-15P) parallel blade Rated 10A, 125Vac UL, CSA Approved
	200-240 Vac	IEC60320 C-22 Rated 10A, 250Vac UL, CSA Approved	Type SJT, No.18 AWG Min. 3-Conductors(Single phase; 2-current carrying conductors & ground) UL, CSA Approved	NEMA (6-15P) tandem blade Rated 10 A, 250 Vac UL, CSA Approved
Europe <*2>	100-240 Vac	IEC60320 C-22 Rated 10A, 250Vac <*1>	CENELEC 0C 3X1.O square mm<*1> <HAR>	Rated 10 A, 250 Vac <*1>
Australia	100-240 Vac	IEC60320 C-22 Rated 10A, 250Vac	Cable: AS OD 3 X1.0 square mm e.g.	Rated 10 A, 250 Vac
U.K <*2>	100-240 Vac	IEC60320 C-22 Rated 10A, 250Vac	BS OC 3 X1.00 square mm	Rated 10 A. 250 Vac
Others <*1>	Standards compliant with ground conductor and rated 10A or better			

Note: *1. Be sure that the detachable proper Supply cord has the approval of the appropriate safety agencies of the country where the equipment will be used.

Note: *2. Cable length of above Power Supply cord shall be shorter than 4.5 m.

A

A.2 Options

Name: Holder Carriage 	Name: Cartridge Holder 	Name: Tube Holder 
Name: Buffer Stand 	Name: Adapter	Name: Discharge Tray 
Name: Holder Stand 	Name: Pump Tube 	Name: Tube Cap (Large: Blue) 
Name: Tube Cap (Large: Purple) 	Name: Tube Cap (Small: Blue) 	Name: Tube Rack (4pcs) 
Name: QG810 Carriage Set 		

A.3 About Services

- Before you ask for device repairs, refer to "6 Troubleshooting"(→ page 45) to check the problems.

  If the problems cannot be solved, contact your local Customer Support.

- If the QuickGene-810 has failed, contact your local Customer Support.

A.4 Repair Service Period of Product

The guaranteed repair service period of this product is seven years from the end of sales. Thereafter, repair services may not be provided if repair parts become out of stock. Please note this.

A.5 Customer Support

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A.6 Notes for Transfer QuickGene-810

When transferring the QuickGene-810, note the following points:

WARNING: When carrying the QuickGene-810, disconnect the plug from the outlet first. Watch your step when you relocate the QuickGene-810. If the power cable is damaged, this may cause a device failure, fire, injury, or electric shock.

CAUTION: Two or more people are necessary to carry the QuickGene-810. Otherwise, you may hurt your back or hands because of the weight of QuickGene-810 (more than 20kg).

When transferring the QuickGene-810, be sure to perform the following tasks:

- Remove all attached parts from the QuickGene-810.
- Secure the tubes inside the QuickGene-810 with tape.
  → "1.3 Remove the Packaging Materials" (page 4)
- Secure the carrier with the 2 clamps so that it does not move.
- Secure the front cover with tape so that it will not open.
  → "1.3 Remove the Packaging Materials" (page 4)
- After completing the above tasks, pack the QuickGene-810 in its original shipping box or some other equivalent box.

A

Nucleic Acid Isolation System
QuickGene-810 User's Guide

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Printed in Japan

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